Volume 3
Number 2
July 1990
£2.95

An Interactive Publication

AMIGA COMPUTING



The new Amiga ON TEST

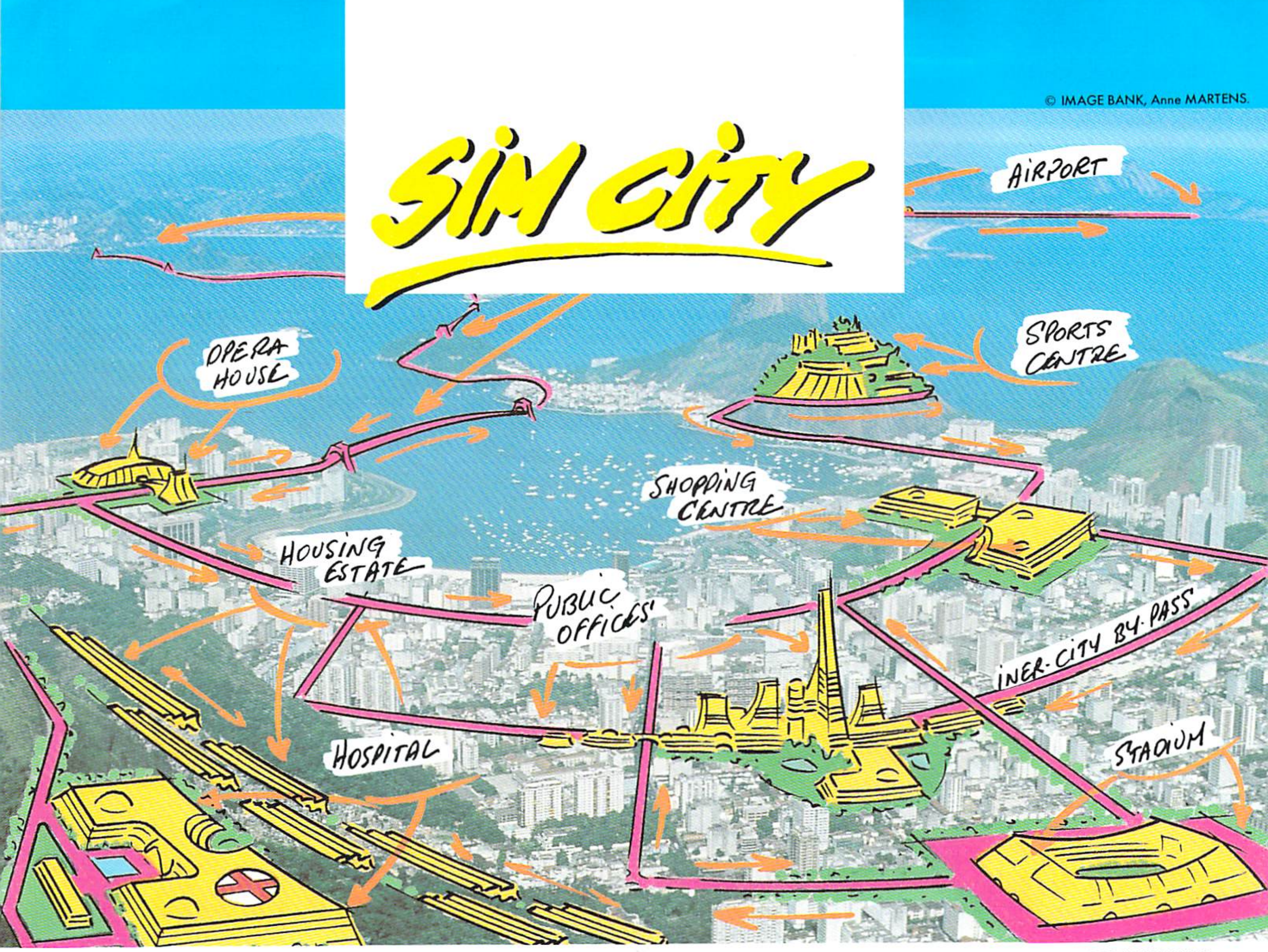


Freezer cartridges compared

Ray tracing on the cheap

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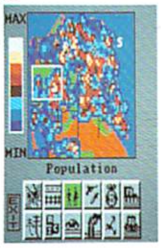
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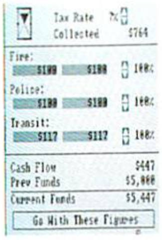
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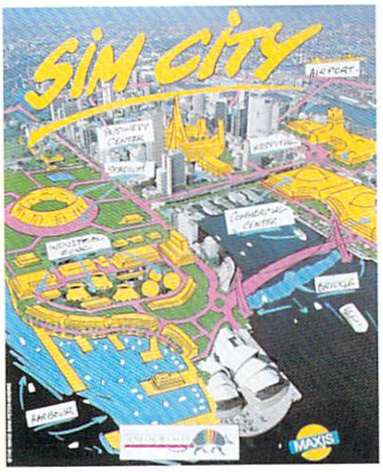


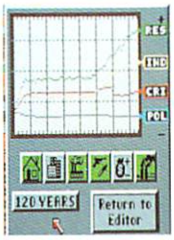


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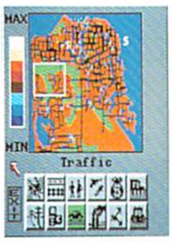
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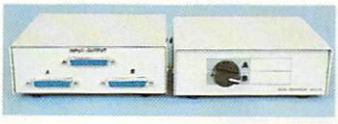
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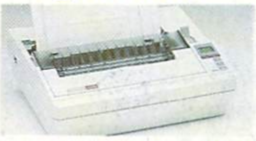
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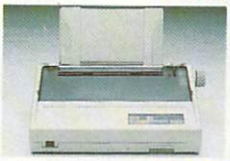
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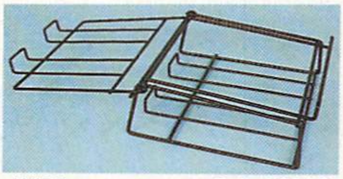
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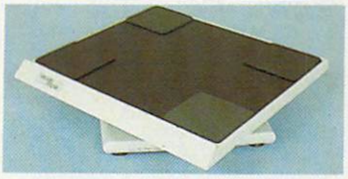
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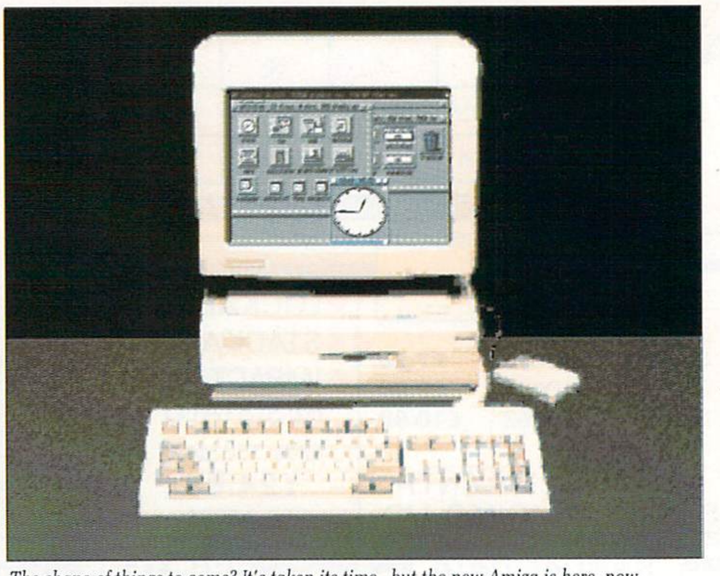
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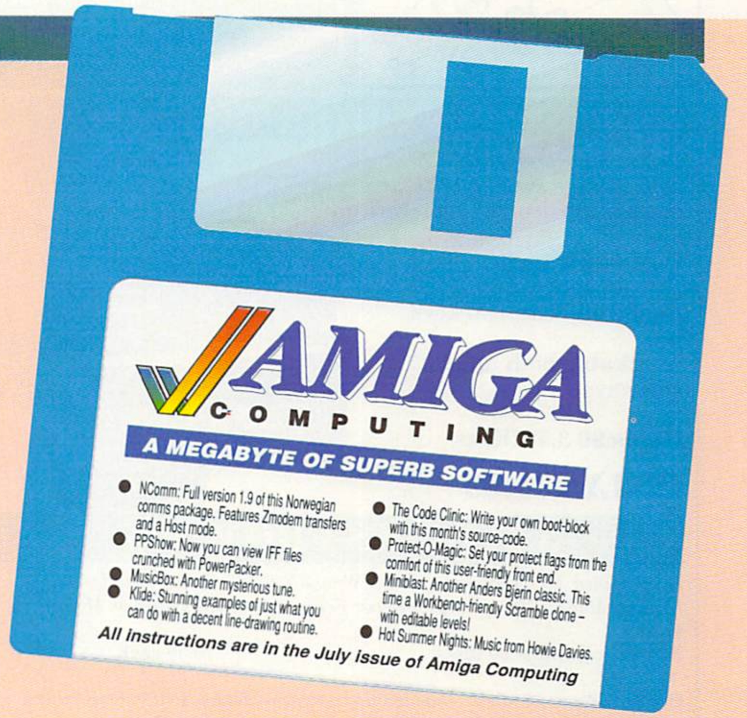
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The shape of things to come? It's taken its time, but the new Amiga is here, now. We have a hands-on review of the machine everyone is talking about

Ray tracing needn't be expensive, as Stewart C Russell discovers





NCOMM

The latest version of the excellent comms package from Norway which threatens to overtake old favourites like JRComm and Access!

KLIDE

Amazingly fast line-drawn graphic experience. You'll find it excellent accompaniment to your favourite Floyd tracks.

PPSHOW

If you save disk space by PowerPacking your IFF files, you can now view and print them without de-crunching first.

MINIBLAST

Excellent multi-tasking scramble-type game which plays in a workbench window. Anders Bjerin delivers the goods again.

PROTECT-O-MAGIC

At last you can alter all those file flags easily from the comfort of a user-friendly front end.

MUSICBOX

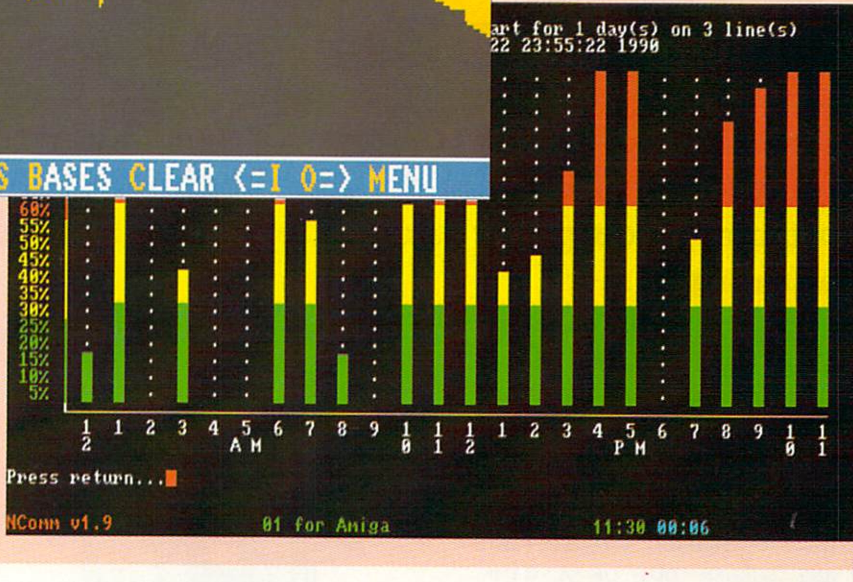
Another "Name That Tune" competition in this month's music slot. Convince us you know what you're talking about and win the complete collection.

HOT SUMMER NIGHTS

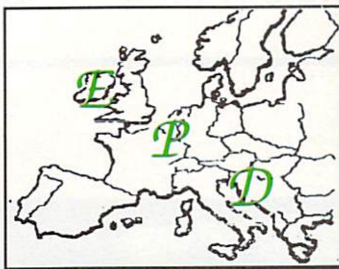
A good excuse to hook up your Amy to the Hi-Fi and annoy the neighbours – an original Howie Davis composition.



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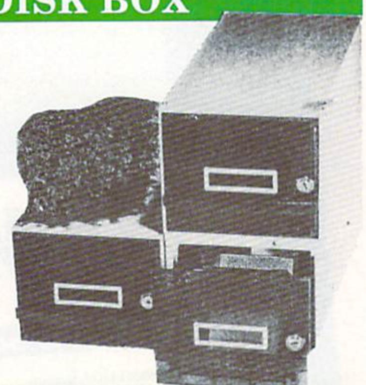
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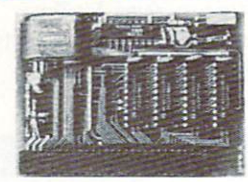


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Teachers expand the keyboard concept

A GROUP of Birmingham teachers have designed a product which gives even more scope to the already versatile Concept Keyboard, now in full production for the Amiga.

Under the name of Think Ltd, they have produced the Overlay Designer and Manager which works on the Concept Keyboard Company's serial version designed for the Amiga.

The package can be used to create overlays for almost all Amiga software, so allowing many more people to enjoy using an Amiga - particularly young children and disabled people. It includes software designed by Think, but teachers can also design their own software.

Using the overlay package, keys on the Concept Keboard can be tailored to represent words or phrases. A new development will incorporate synthesised speech, so pupils will hear the word they have put in and even more software is on the drawing board, which will represent a whole page at the press of one key.

Commodore dealer Mr.Disk (021-616 1168) is to package and sell Overlay Designer and Manager which costs £19.99, including a comprehensive manual.

"There is going to be a tremendous amount of interest when it gets up and running", said Alan Caddy of Mr.Disk. "Programmers at Think are coming up with lots of ideas. Being teachers themselves, they know just what teachers need and are designing their software in

➤

Pool the other one

TAM MARKETING is following up its well known Tipster horse racing program with Punter for those who fancy a quick eight from ten every now and again.

The system is heavily based on the algorithms from Tipster but obviously the database will be altered to accept pools information from any national newspaper.

Provision is made for all combination plans and so the program should work with any football pool coupons.

The Punter is available now from TAM (0392 215485) price £29.95 inclusive of VAT and P&P.

REVIEWS in *Amiga Computing* are on the ball. Nic Veitch introduced readers to the wonders of the APL mathematical language in May, pointing out some of its drawbacks. Quite independently, developer MicroAPL (071-922 8866) has produced an upgrade which covers many of these points. Full marks Nic.

Version 7.30 of APL68000 improves its Amiga interface and includes new Events handling software which permits much more effective control of the Amiga environment from within the APL68000 workspace.

Other new features include an improved requester interface, an improved editor for functions and text matrices,

Modest smiles dept

quicker mixed functions such as reshape and catenate, support for a unified keyboard, a multi-workface which allows tasks to share variables, new bitmap graphics and multi-font support plus many new functions in the support workspaces.

MicroAPL issues free runtime versions of APL68000 to developers who complete a simple licence form. This policy has had considerable success in encouraging the release of packages written in APL68000, particularly in the USA.

Full price, £99.95. Upgrade price for owners of versions 6 and 7, £30.



Win a pack with Batman

COMMODORE and Warner Home Video have teamed up for a competition which gives people who rent the new Batman video a chance to win one of 10 Amiga 500 Batman Packs. It is claimed to be the first interactive competition in the UK to involve a major movie title.

After watching the video, viewers must answer two riddles posed at the beginning and must then complete a tie-breaker question. The 10 correct entries judged to have the most interesting tie-breaker will each win a pack, which includes an Amiga 500 and Batman game plus a selection of software titles including The New Zealand Story, Deluxe Paint II graphics package and F-18 flight simulator. The packs are worth £400.

"This competition is the first of its kind and we are excited to be presenting such a fabulous offer with Warner Home Video", said Commodore's managing director Steve Franklin.

"Batman and the Commodore Amiga 500 Batman Packs are two great success stories and by combining the two I'm sure that we will score a huge hit with viewers".

Disc transfer package

COMMODORE has shown interest in promoting a new package from Track Computer Systems (0332 41817) which allows users of the Commodore BBC Emulator to copy disks over from BBC format to Amiga.

Called Transfer, it will copy programs, machine code and data files from the BBC to the Amiga and allows users to use their Emulator to the full.

Chris Harvey of Track said: "Anyone who owns the Commodore BBC Emulator will have found out by now that it will not allow them to copy disks over from BBC format to Amiga.

"Since we announced Transfer, Commodore have become very interested in it.

"We sent them a copy and received a telephone call to say they may be willing to promote it".

Transfer costs £19.95 including BBC to Amiga cable. It comes packaged with four small utilities - a database, a teletext and screen editor, a disassembler and memory mover, Mem Move.

line with that.

"There is a lot of interest now in Concept Keyboards for serial machines like the Amiga particularly in the UK and education fields in America, Australia and New Zealand".

Underlining the importance of their Amiga product for people with sight problems, Think Ltd was recently invited to the International Conference on Education for the Visually Handicapped at Warwick University.

The company demonstrated the software using Talker, the talking word processor, Pro-Write v2.5 colour word processor, Excellence and Kindwords. The teachers showed how one overlay card for Notepad could be used with each of these and many other word processors available for the Amiga.

The showing by the Think team, Mr.Disk and Andrew Harland from Commodore's demonstration team, created great interest among the international delegates at the conference.

Formerly known as Star Microterminals, the Concept Keyboard Com-pany (0962 843322) is now in full production with its serial product for the Amiga.

Peter Beech of Concept reports that they are now making 4,000 serial and parallel keyboards a month. While versions for Acorn machines are sold by A & B Marketing, the new Amiga versions are being dealt with directly by sales staff at Concept.

They are available for both the Amiga 500 and 2000. Since the 2000 has a detachable keyboard, the product can be used through the keyboard socket or with a separate supply unit.

Available at present are the A4, 128 key version at £177, the A3, 128 key version at £199 and the A3, 256 key version at £227. Specialised boards can be produced to customers specifications and Concept has produced a number of Braille boards.



Winner Ken Holland and his children

High flying winner

WE know that readers of *Amiga Computing* are high flyers and now one of them has proved it. Ken Holland of Dorset sent in the winning entry in our January competition run in conjunction with Digital Integration.

He correctly answered the questions on Digital's F16 flight simulator and won a flight of his own as the prize.

With his children, Cheryl, 9, and six-year-old Carl, he took to the sky from Hurn Airport in a Cessna aircraft owned by Bournemouth Flying Club. The flight took them over much of the Dorset countryside including their home in Wareham.

"We were lucky because we could not have chosen better weather", said Ken. "There was not a cloud in the sky and you could see for miles. Cheryl and Carl loved it".

Taking on another class

FOLLOWING the success of Commodore's Class of the '90s Amiga-based educational bundle, the company is likely to launch a similar product aimed at children of primary school age.

National sales manager for education, Peter Talbot told *Amiga Computing* that the follow-up to Class of the '90s will be announced later this year. It will offer an Amiga bundled with educational software and will probably target the under elevens.

"The Class of the '90s bundle which we launched last October has been a great success", he said. "We have now sold 10,000 units and have had requests for something in the region of 2,000 education resource files. We are just about to mail out an update to the resource files and we are in the process of launching a newsletter on education.

"Because of this success, I would not be surprised if we repeated something like it later this year but for a different sector of the market. We are always keen to support younger users and the Amiga lends itself to such markets. A lot of respected software developers are now writing home education software for the Amiga and it is a marketplace we are presently looking at".

The decision is said to result from parents' requests. It is expected that the new bundle will cost around £499 - the price of the present bundle.

Pro Midi music

GAJITS Music Software (061-434 2768) has released a new range of programs designed to help Amiga owners get the most from Midi instruments.

Following its success with music software packages on the Atari ST, Gajits has now launched its Professional Sound Development Programs for the Amiga.

They allow users to edit the internal sounds and instrumental arrangements with ease from full screen graphical displays. The software can also multitask with a sequencer program so the results can be heard immediately. Extensive librarian facilities are included to allow whole banks of sounds to be created and manipulated.

Programs are available for the Roland D5, D10, D20, D110, MT32, CM32L, CM32P and CM64 and the Gajits software is endorsed by Roland UK for use with its computer music modules.

Professional Sound Development Programs cost £99.99 including 64 professionally created sounds.

Video upgrades

UPGRADES to two popular video packages have been announced by the Phoenix-based Zuma Group.

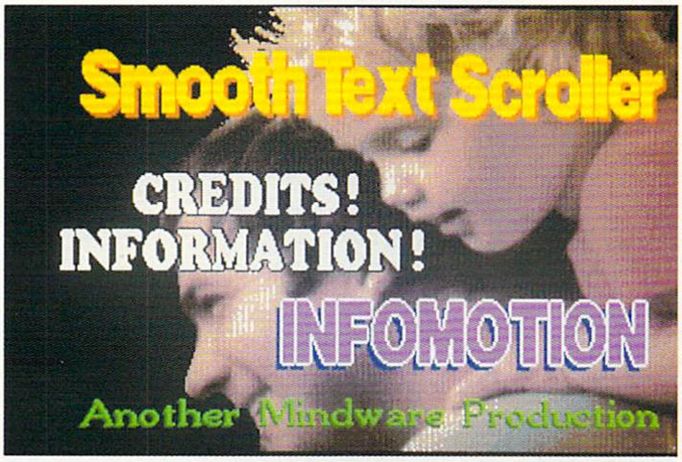
TV Text Professional is a video titling program which can also be used for desktop presentations.

Features include title effects such as metallic look, colour animated glows, glints, sheens and the creation of styles with a built-in editor. Price £129.95.

TV Show II can be used to create animated graphics presentations and allows the inclusion of sound effects and computer generated speech.

More than 40 variable speed transition effects are featured and the program also includes a script editor.Price £69.95.

Both packages are available from HB Marketing (0753 686000).



Smart little scroller

EASY and automatic creation of smooth scrolling text screens is the boast of Credit Text Scroller, the latest Amiga offering from Mindware International (0279 412441).

It allows users to select fonts, sizes and scroll rates via a simple point and click interface. Information to be displayed is generated from a text editor or word processor then automatically put into the desired credit screen or information display.

The final result is in the common Anim format and can be genlocked over a video source or overlaid on another Anim. Colours and drop shadows can be added to standard Workbench fonts and there is a subtitling option. Price, £29.95.

Waiting for the CD rom

AMIGA owners will have to wait a little longer for the cheap CD rom alternative under development by Codemasters (0926 814132). Manpower problems have forced the games developer to put the project on hold.

As an alternative to expensive CD roms, Codemasters has produced an analogue to digital converter which connects the headphone socket of a CD player with the computer's joystick port. An accompanying loader program sets up the machine to receive data through the joystick port.

Backed up by games compilations on compact disc, the system is so far only available for the Spectrum and Commodore C64 but an Amiga version is still on the cards.

"We have had so much on with the American side of our business that we have not been able to do any further work on the Amiga version", said a spokesman.

"While this system would not be in the same league as CD roms costing hundreds of pounds, it will provide games players with some of the benefits of CD but at a fraction of the cost.

"We would see the price at around £30. A system for the Amiga certainly has not been discounted. It's a matter of finding the time to work on it".

Editor lends a helping hand

THE Spastics Society will benefit from an Amiga "charityware" drive launched by Designer Mouseware (0642 482831). It is selling its public domain snooze pointer editor, Sleepy, for £2.50 and all proceeds will go to the society.

Version 3 of Sleepy allows Amiga users to redesign Workbench's Snooze bubble. The new pointer is almost three times the height of the original, has its own set of colours and can be animated with up to 20 images. It is compatible with Amiga Workbench, Devpac 2, Scribble 2, Analyse 2, Organiser 2 and Deluxe Paint.

Mark Smiddy, the computer journalist who designed Sleepy, said: "Some time ago I interviewed a young cerebral palsied man who was producing a magazine for a local computer club with all proceeds going to the local Spastics Society.

"I was so moved by his courage that I found myself wanting to help. During the development of Sleepy, a colleague suggested selling it as shareware and the idea grew from there. Hopefully, other programmers will follow our lead".

Fundraising manager for The Spastics Society Hilary Finch said: "We are delighted to receive donations from this initiative. Many people with cerebral palsy use computers, so it is very appropriate for us to have this association".

Sleepy is available from good public domain sources. The official supplier is Ray Burt-Frost of Amiganuts United (0703 785680).

Heavily into mouse business

TAKING on the mouse scene with a vengeance is Contriver (Europe) Ltd (0280 822803) which has announced two new mouse ranges, claiming they will give the company more mouse products than any other firm in the UK.

Known as the 820 and 830, the new mice are technically almost identical but quite different in appearance. They are supplied with mouse mat and pocket for a standalone price of £29.99.

The Buckingham-based company which was formed in the middle of last year is also offering the mice bundled with Fantavision, the art package which allows users to animate graphics. Price, #54.99.

The mice feature a resolution of 200dpi with a tracking speed of 500mm.

"Our new mice are competitively priced and cater for a wide diversity of needs", said managing director Adolpho Giannini. "Selecting icons has never been easier".



CD-Amiga is due at big Chicago show

RUMOURS of a midsummer UK launch for Commodore's new CD-Amiga have been accompanied by speculation that it will be pitched higher than just as a games machine.

Trade sources say it will target the growing market in low cost solutions which combine audio, video and computers. Tipped for launch as a complete home entertainment system, it is claimed that the CD-Amiga will cost between £750 and £800.

The machine was due for its first American appearance on June 2 at the giant Consumer Electronics Show in Chicago.

A UK launch is rumoured for soon after CES and top software houses are said to be already working on packages to support it.

At Mirrorsoft, John Norlidge told *Amiga Computing*: "It is well known that we are working on CD-rom projects. We are very involved in CD-rom games and multimedia as part of our core business.

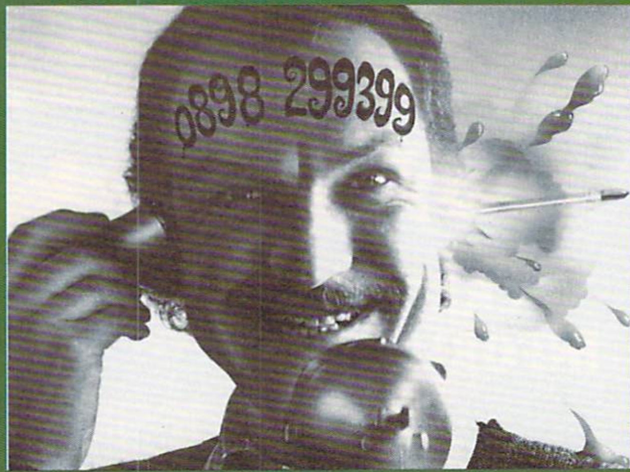
"Because of non-disclosure, I cannot go on record regarding any involvement with Commodore".

Another software house said to be preparing supporting software for the CD-Amiga is Mindscape, where software manager Phil Harrison was also unwilling to comment.

"We have signed a non-disclosure agreement with Commodore and it would be improper of me to comment at the present time", he said. The same story came from a spokesperson at Activision.

Following its usual policy which prevailed right up the the recent launch of the A3000, Commodore would not discuss the project.

Also a case of "no comment" from Commodore is the new Amiga portable rumoured to be under development in America.



Smiles on line

NOTHING and no one are safe from the attentions of the latest venture by computer industry characters Bruce Everiss and Mel Croucher

They have set up The Mel Croucher Computer Fun Line which features "an exciting and entertaining new Fun Line event" every week. With the accent on humour, the line takes software, hardware, the industry and the people in it with a Private Eye approach.

"No one will be speaking to us after this", commented Bruce. The Fun Line number is 0898 299399 which is charged at 25p a minute cheap rate and 38p a minute full rate.

Amiga winning in High Street

AMIGA software is winning the High Street battle with its principal rival the Atari ST, according to W.H.Smith.

For the first time, sales of Amiga packages equalled those for the ST in March and are expected to overhaul them in coming months. Reflecting this success, W.H.Smith is to increase the number of its stores stocking Amiga software.

"Historically, we have always done better on Atari ST software because we used to stock the machines before our policy on hardware changed", said the group's computer buyer Sean Willis. "We also stocked Atari products

➤

Multi-million colour show

LATER this year Martin Lowe of Amiga Centre Scotland (031-557 4242) hopes to launch the ACS Framebuffer I, a display device which gives users the option of more colours and greater resolution than are inherent in the Amiga.

A prototype of the device is in existence but an exact release date or price have yet to be decided.

Framebuffer I features full 16 million colour display, PAL and NTSC, RGB analogue output, full overscan, 24 bits per pixel palette, output to a standard RGB monitor and 32 bits per pixel design.

It has option expansion of an additional four or eight bits per pixel, additional display ram for double buffering, Genlock and 601 digital video output.

Resolutions supported are 896 x 578 (PAL), 896 x 490 (NTSC) in Mode 1; 720 x 578 (PAL) and 720 x 490 (NTSC) in Mode 2, 601 digital video. Among bit mapped graphics file formats supported are IFF ILBM 2-24 bit plains, Sculpt 4D 24 bit files, Scanlab 24 bit files, Digi View 21 bit files and Targa files.





More problems for Mac owners as the Amiga looks set to become the cheapest 24bit-colour micro ever

before we went into the Amiga but over the last two years the Amiga has shown the largest growth.

"Finally, in March, it caught up with ST sales as far as value is concerned. As part of our new stocking policy for 1990, I have decided to increase the number of stores selling Amiga software by more than 80.

"This means that 202 of our 260 stores throughout the country will have Amiga product on the shelves. As far as W.H.Smith is concerned, Amiga Software is very good news".

Looking to the future, Sean is likely to take W.H.Smith into the field of CD-rom as the industry awaits further news of Commodore's CD Amiga.

"This is a very exciting area and I will certainly be looking at supporting it", he added.

Divide and conquer

TWO former competitors in the Amiga field have joined forces to make the North/South divide work in their favour and give their customers cheaper products.

Kelvin Searle of Weybridge-based Speed Computers (09323 52277) and Steve Cobham from D S & K of Liverpool have teamed up to buy cheaper components in bulk for their Amiga expansion boards allowing them to bring down average prices from £79 to around £49.50.

They also offer a more localised service which promotes confidence in their products.

"We started out as competitors in the Amiga expansion board market", said Kelvin. "We were trying to beat each other on price. When there were shortages of bits and pieces such as Dram connectors, we tried to rip each other off to get them.

"On the telephone, Steve and I became very friendly and built up a good relationship over a period of months. We realised that we could join forces to take out joint advertisements and so keep the costs down. We also source our components from America and the Far East and can now buy in bulk.

"I deal with the southern region and Steve deals with the North. Customers like dealing with someone who is closer to them".

Amiga owners interested in expansion boards can expect further developments on this partnership in the near future.



Mark Lewis of Electronic Arts receives his award from Pierre Dell'Orco of Bit magazine, Milan

Pictured below with the Amiga's award for Computer of the Year is Commodore's marketing manager David Pleasance



Amiga voted top computer

MEMBERS of the UK and foreign computer press voted the Amiga "Computer of the Year" in the Home Productivity section of the recent European Computer Leisure Awards. Best product for the Amiga was Deluxe Paint III from Electronic Arts.

Presented in conjunction with The European Computer Trade Show, the awards were voted on by journalists from the UK, Italy, France, Germany, Spain and Sweden with special awards from America and Japan. Game of the Year was Populous, and Software Publisher of the Year was Electronic Arts.

New Amiga guides

ADAMSOFT (0706 524304) has added to its stocks of Amiga books with three new titles.

Mapping the Amiga from Compute Publications is an in-depth reference work including complete listings of library functions with syntax given in C, machine language and Modula-2.

Written by Randy Thompson and Rhett Anderson, it is claimed to be the only source which includes full descriptions of every Amiga hardware register and an element-by-element breakdown of each Amiga system structure. Price, £19.95.

Compute's AmigaDos Reference Guide has been completely revised and updated to cover all current versions including 1.3. Written by noted Amiga authority Sheldon Leeman and magazine columnist Arlan Levitan, this edition costs £18.95.



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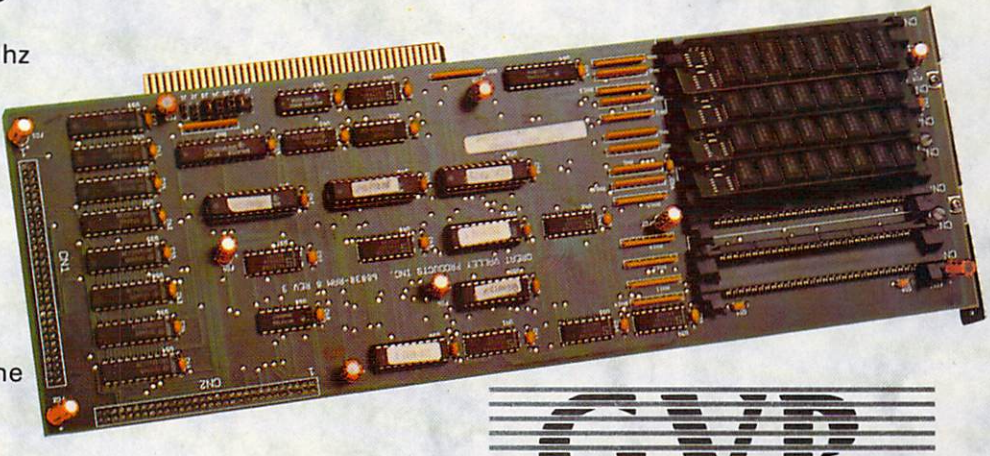
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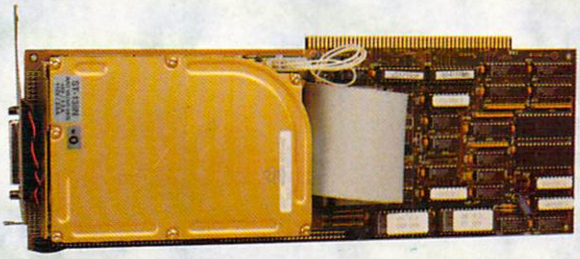
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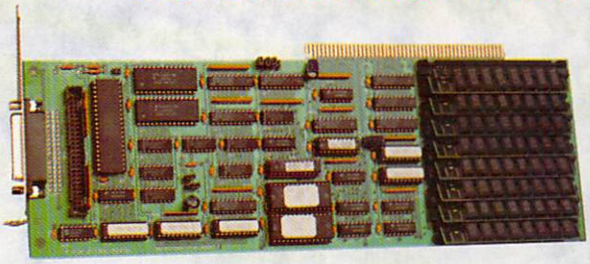
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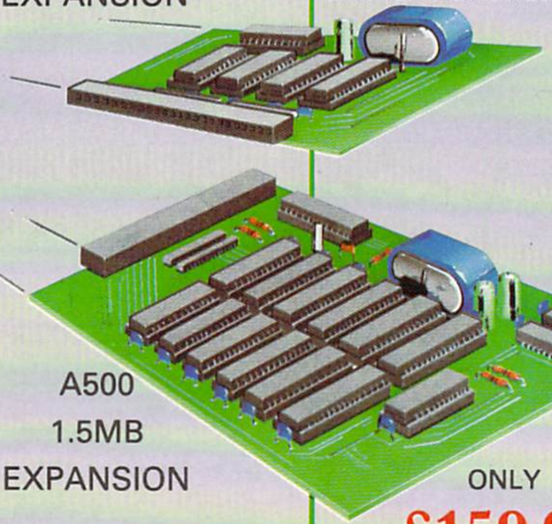
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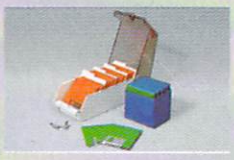
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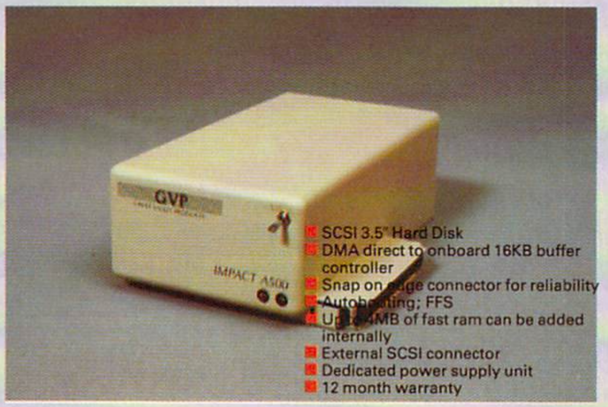
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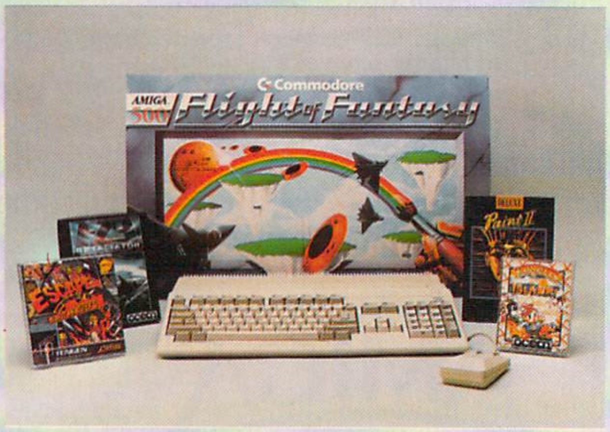
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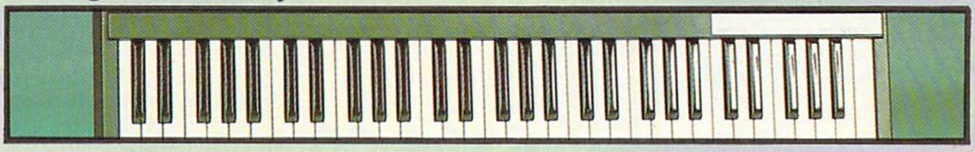
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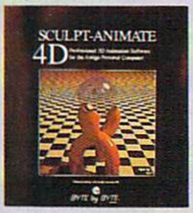
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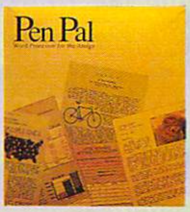
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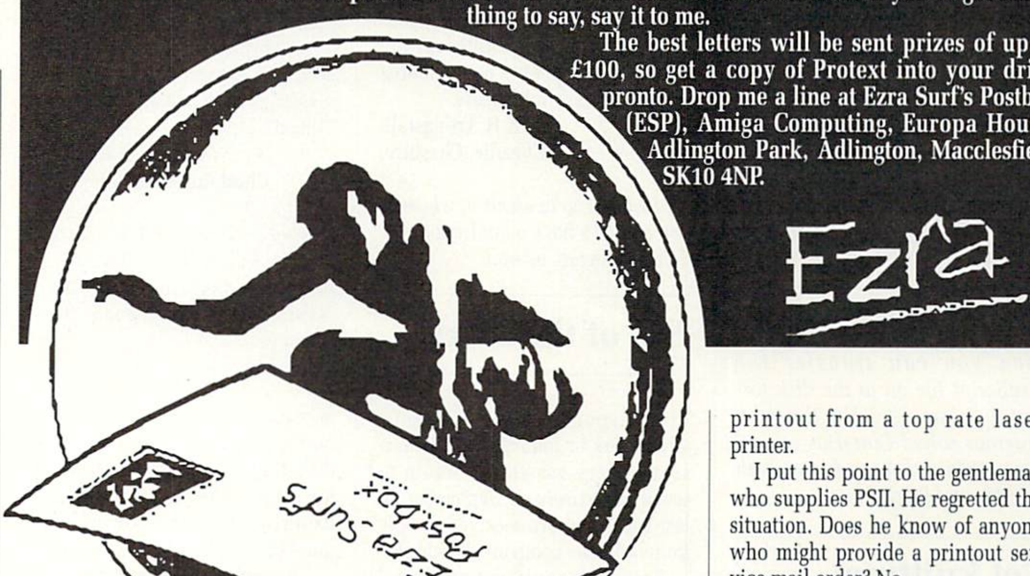
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Dotty on DTP

I DEVOURED your report on PageSetter II as only a starving man would. Information about the so called serious software for the Amiga is so difficult to come by. Although your report was welcome, it left me still hungry.

All the magazines that I have ever read have said what a serious computer the Amiga could be, that what is needed is for those not quite so besotted by it to give it a chance in a business environment where it would proceed to knock the socks off those Macs and IBMs.

But if your magazine and others like it won't take it seriously enough, what chance is there of this happening?

I want to buy a DTP program. Like most people, I have very limited funds, so I want to be sure before I buy. I have seen the output of a friend's PageSetter and although I was impressed at first, I now realise that the output from a 9 pin printer is not good enough.

If this software is in part aimed at a semi-professional market, that same market would want to see the quality of the output, in comparison with the competition, and on a variety of printers – 9 and 24 pin, inkjet and laser.

Magnified photos of the outputs and a selection of available fonts is minimum information for software of this nature. So down to the local shops to get a demonstration. I live in Brighton you understand, not a small country village, but did anyone have a copy of PSII? Of course not. The only DTP package I found was a copy of Professional Page. And it did not work.

So I telephoned the importers. Could they send me a printout so I could check the quality? No, but they gave me the phone number of a shop which would provide me with what I wanted.

So telephone the shop. Yes, they could do that for just one program. Do I stand any chance of seeing the output from the rest? No I do not.

Finally, and maybe an even more important point, when (if) I do make a decision and buy, inevitably the quality from my 9 pin printer can never serve in any professional capacity.

Now if I had a Mac – and here's the reason I believe why they are the only choice for serious DTP use – I could take my disk down to the High Street and get a first class printout from a top rate laser printer.

I put this point to the gentleman who supplies PSII. He regretted the situation. Does he know of anyone who might provide a printout service mail order? No.

Is it any wonder, therefore, that people with a serious intent for their computer save there money for however long it takes and buy a Mac?

Now I know all this is not your fault and you are only coming in for this flak because you *did* print something of use, but couldn't you raise the debate at least and help to change the situation?

Ron Cavedaschi,
Brighton.

What a load of codswallop. Listen, Ron, DTP output from any 9 pin printer is going to be awful. You've discovered that. The output from 24 pins is going to be less awful, but you'll still get the jaggies because resolution is limited to the size of the pins themselves.

Deskjets and Laserjets are the only viable answer for semi-professional output. Both print at 300 dots per inch. Some expensive ones go higher than this.

The example output (three pages of it!) in the PageSetter II article was printed out by a Star LaserPrinter 8II at 300 dots per inch. There was an actual size example of output on the front cover!

DTP output at 300 dpi isn't going to differ that much from package to package. The limitation is the resolution of the fonts. The CompuGraphic fonts that come with PSII and Pro Page are limited

➤

Stingy British?

I HAVE spent nearly £900 on my system and I feel that what I've got is a professional computer which I can use for a multitude of different things. And I do. But what I fail to understand is why people will spend £400 on a machine just to play games.

Why not buy a dedicated games console that can produce as good, if not better, audio and visual effects than the Amiga for half the price?

I think that the answer to this is that people are not willing to spend £25-£40 on a games cartridge when they can get the latest Amiga blockbuster from "the guy round the corner" for the price of only a blank disk.

This probably sums up the whole British market – why pay for something when you can get it for free? Which is why, in my opinion, games cartridge-based machines will continue to flop in this country.

P Mattocks,
Huntington,Yorkshire.

People see the Amiga 500 as a games machine because it's being marketed as such by Commodore UK. It is a different story in Germany and North America where everyone owns at least 2 meg of ram and hard drive.

I think you've hit the nail right on the head. The British don't like spending their money. Then again, the cost of living in this country is very high.

If you haven't got it, you can't spend it, he says, putting on his ill-fitting homespun philosopher hat .

only by your printer's resolution.

Output them to a Linotron typesetting machine and they'll come out as good as the text you see in this magazine.

PageSetter II (not to be confused with the original PageSetter, which it seems your friend has) is produced by Gold Disk, the same company that produces Professional Page.

Professional Page can write pages out as PostScript files (PSII can't). Any printing shop providing laser or typesetting services will be able to print such a file.

If the shop doesn't have an Amiga to hook up to its printer, then you can transfer the PostScript file on to the disk format the shop uses. You'll need a program called CrossDos to produce MSDOS disks, a format both the Mac and PC can read.

Get knitting!

FIRST *they* created the 48k Spectrum. Then *they* improved it to the 128k Spectrum. I bought both of these machines over a period of time to use as a home computer and to facilitate one of my interests shared with my loving wife nearly 40 years. Then I bought an Amiga.

I have studied over the years many, many lists of games with widely varying interest group applications, and even more widely varying age group applications, but so far as I am able to determine the Amiga fails to fulfil *my* basic need, which the humble Spectrum filled to perfection.

It was not just one program which filled this need, but several; and all with colour display, good graphics and printer facilities.

Please will someone out there produce an Amiga program for machine knitting.The market exists, the demand exists, the research has all been done, and at least six major knitting machine companies would probably welcome the increased interest the chance to design ones own patterns and garments would create.

S K H Artingstall,
Cheadle, Cheshire.

And while you're about it, whoever you are, let's have a landscape gardening program as well.

Six of the worst

THE response of some of your advertisers to inquiries from overseas is very variable. I wrote to seven advertisers on September 10 last year and have received a reply from only one company, Byteback.

Byteback replied by airmail within a couple of weeks and my subsequent order of £115.29 was very promptly processed. Thanks, Byteback – the company deserves recognition.

Mark von Dadelszen,
East Hastings,
New Zealand.

Roll On bug fixes

HOW glad I am to see the cover disk back. It's nice to see that you listen to your readers. However, I have a couple of points about the May disk.

Documentation and source files: I suppose that with no doc files you can fit more on the disk, but trying to find the right issue for the necessary instructions is a bit of a nuisance. If the doc files are on the disk, they are instantly to hand. As for source files, there were really useful and I hope you will put more of them on the disk in future.

The support programs for Roll On seem to have some problems. Not being a fan of Basic I am not sure how complete these are, but here are my bug fixes.

Firstly, both LoadILBM-SaveACBM and Cut-A-Puzzle cannot find their bmap files. The solution is to put the following line at the start of each program:

```
CHDIR "cd007:reader-
contributions/rollon"
```

Secondly, Cut-A-Puzzle does not seem to save the puzzle file out correctly. To put it right, find the following code:

```
OPEN vv FOR OUTPUT AS #1
FOR d=0 TO e
  WRITE #1,brush(d)
NEXT d
```

As a guide, if the List window is full PAL size, then the code is at the very bottom of the second screenfull. Now replace *FOR d=0 TO e* with:

```
FOR d=0 TO 5123
```

It seems to work. Well, for me anyway.

Lastly, there is a neat little program called TBar hidden in the C: directory of the cover disk. Is there any chance of you putting it on the disk as a featured program with instructions?

David Illegible,
Garswood,
Lancashire.

Thanks for the debugging. The .bmap files were originally in the Libs: directory (where they should be) but at the last minute Jeff decided to move them into the Roll On drawer. He must've forgotten to re-check the programs.

Funny though, we think the Cut-A-Puzzle program works OK as it is, although your bug fix works too.

I've passed your comments about the disk on to Jeff. He nodded sagely about the source files but did a passing imitation of a pair of scales when he read the bit about the doc files. He pointed to the Amiga Computing *binder lying open on my desk. I think he was hinting that I send you my binder. Or something like that.*

Getting organised

I HAVE just splashed out on a Psion Organiser and want to link up to my A500. Please could you tell me if there is any way of doing this without buying a comms link, and if so what kind of software will I need?

Andrew C Wilson,
Cheshunt, Hertfordshire.

What you need is K-Comm 2 from Kuma (0734-844335). The lead that comes with the Psion plugs straight into the Amiga.

Guarantee please

I AGREE with what most of the letters in the June issue say about the high price of games, but I do not agree that this is a good enough excuse for breaking the law.

On the other hand will the games producers be willing to give

Printer Tip 1

REGARDING the letter from Edward Christian in your June edition of *Amiga Computing* and his problems with his Olivetti DM 100-S printer.

I own the same printer and at first had similar problems. I must admit that these problems were brought about by me not reading the user manual adequately.

This printer emulates the Epson FX-80 and therefore is put onto Workbench by choosing "Install Printer" when the Extras Disk is requested using Epson X(CBM-MPS-1250). This worked for myself and as I am no computer buff it must be easy!

I did, however, set up the printer wrongly, again by rushing rather than reading the instructions one by one.

I assume that Mr. Christian has the user manual, so if he refers to Section 5, "Programming the Printer" and follows the instructions he should have no problems (provided he can understand the technical details, much of which I couldn't).

Mike Wilson,
Bournville, Birmingham.

Printer tip 2

IN the June issue of *Amiga Computing*, S Mallan of Devon wrote to you about printer codes not working when using Basic, and you said to use OPEN "PRT:" instead. I had the same problem when using printer codes, but they still didn't work with "PRT:".

After some messing around I found that the printer device was changing the codes I sent into other codes. To get around the printer device I sent the codes to the parallel port by using the statement:

```
OPEN "PAR:" FOR OUTPUT AS 5
```

The printer now receives the codes you send without being altered.

Robert Boardman,
Bolton ,
Lancashire

a lifetime guarantee with their games? The ordinary bloke on the street can no longer make a backup copy because of the said law.

R S McCrea, Greenisland, Co. Antrim.

Quite a few software houses will replace a disk if it fails to function. Others will sell you another copy cheap, just in case.

Personally, I think it's safest not to touch the disk at all and stick to reading the instruction manuals instead.

Bald bard

I HAVE an ambition and, well, to be frank, I need your help to achieve it. What I want to do is sit in my front room and create music. Music to rival great songs like Primal Scream's Loaded and 808 State's Cobra Bora.

To do this I will need a sampler of some description along with a piece of software which will hold my short 10 second bass guitar riffs and repeat them over and over while I proceed to mix in guitar, vocals and a few drums.

I think you get the picture; a sequencer that will take lots of very short bursts of music and help me create a thing of beauty.

So what do you recommend? My only wish is to sit at my Amiga, shave all my hair off and pretend I'm Norman Cook.

Andrew Cowper, Amersham, Buckinghamshire.

On the commercial side of things, I can't recommend Music-X highly enough. But it might be worth getting hold of the latest version (v2.01) of a shareware sequencer called MED first.

Although it's basically a SoundTracker clone, it multi-tasks, it supports Midi and it's very easy to use. Comes with a bunch of instruments too.

Write to the author: Teijo Kinnunen, Oksantie 19, SF-86300 Oulainen, Finland.

C-ing red

As a very new Amigan I was scanning the magazine shelves for some in-depth background. Most titles look too highly coloured and games orientated for my taste, but *Amiga Computing* has the clearest contents page.

What really decided me to choose your April issue, however, was the article on Chaos. A team with the nerve to present their readers with a recent mathematical theory, and in a three part series no less, just has to be encouraged.

Yet you could show still more initiative. Pete Aikin writes asking for a series on C programming and you fob him off with some unlikely story about the high costs of the hardware expansion, heavyweight American compiler and documentation.

I stand aghast, coming as I do from the austere world of the 64k BBC Micro where we had two passable C compilers and a very good Pascal at reasonable prices. To me an Amiga 500 is already lavishly equipped.

You should be encouraging modular, structured programming. Basic is fine for small programs, but for larger projects C offers a better modular structure and the power to create complex data objects that better represent their real world counterparts.

The result is – and this should appeal to your editorial instincts – that well written C programs look better on the printed page and communicate ideas more clearly to your readers.

So why not apply your immense power and influence in the Amiga world to encourage someone to develop a good, compact, starter C compiler at a starter price?

It would offer a limited function library but assure repeat sales with further specialist libraries for graphics, engineering, finance and so on.

As for documentation, you need look no further than Mark Burgess whose book AmigaDos is already one of your Reader Offers.

His C – A Dabhand Guide is the same price and has all that a beginner needs. His section on the Amiga begins: "C is the natural language to use for programming the Commodore Amiga".

Some entrepreneur's C compiler and Mark Burgess' book on C – what a natural for a possible future Reader Offer!

Brian Eggleston, Avonside, Warwickshire

... and C-ing the light

I'VE acquired a book on C. I have read most of it, and it looks manageable. I've seen some results of fab programming in C and I reckon (so does my book) that C is what I want to learn.

But I need a compiler and Lattice C is just a wee bit above my budget. Can you suggest a cheap or PD compiler?

Ralph Bolton, Guildford, Surrey.

There is no doubt that C stands for "cool". It's the best language to use with the Amiga. But there is a drawback – a package such as the superb Lattice C is a professionally heavy product and so costs money. Lots of money.

It can be used on a bare A500, but it only starts to become fun with extra ram and extra floppies. With a hard drive it is verging on the positively enjoyable! Unfortunately, this means that before you can even dip your toes, you have open the wallet several times.

But the times they are a-changin'. At the moment both Mr PD himself Stewart C. Russell, and Tech Ed Aj are currently making "Ummm" and "Ahhhh" noises over a certain public domain package called NorthC.

It is a polished version of Sozobon C, and comes complete with linker and assembler. In other words it is an essential disk if you are interested in C. For details write to the dude who wrote it: Steve Hawtin, 54 Gloucester Drive, Basingstoke, Hampshire, RG22 4PH. Stewart will be covering NorthC in detail in next month's PD column.

Just recently we have been starting to get some really exceptional disk submissions written in C. It seems that after a slow start the language we were meant to use is finally taking off.

On the programming side, The Code Clinic will be continuing to make regular visits to the twilight zone of K&R. The more requests we get for C, the more we'll do about it.

Cheap video

I HAVE just bought the Vidi frame grabber and Vidi Chrome, which is brilliant for the price. I have been using it with my video player, but now I would like to use it with a camera.

Could you tell which is the cheapest camera I can use and where I can get it from.

Robert Boardman, Bolton, Lancashire

Thanks for the printer tip, by the way. Now to cameras, and the surprisingly common problem of choosing one.

How much you want to spend on a video camera really depends on you. If you want a camera which will also film the family on the beach, then any camcorder with a standard video out signal will suffice. (This means don't get the cheap Amstrad/Fidelity one, which has no video output.)

Prices are high, and digitising quality is relatively low, especially with colour. The dumb beast will try to compensate for the colour filters placed in front of it. Sigh.

The cheapest solution is to shop around for a second-hand black and white security camera. Make sure it comes with a lens! Ask your local security equipment supplier what they do with the old cameras they replace.

Results from these cameras are, umm, OK-ish. It depends a lot on how the camera has been looked after.

Try it before you pay for it and look out for "burnt" spots which will show as black dots in the image. Don't pay more than 100 notes.

The best solution is to buy a specially designed black and white camera.

These give stunning results with digitisers, and cost about 175 earth pounds each. Rombo (0506 414631) try to keep an Hitachi model in stock.

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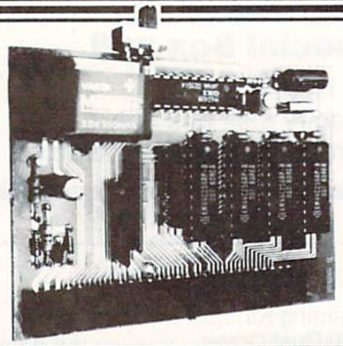
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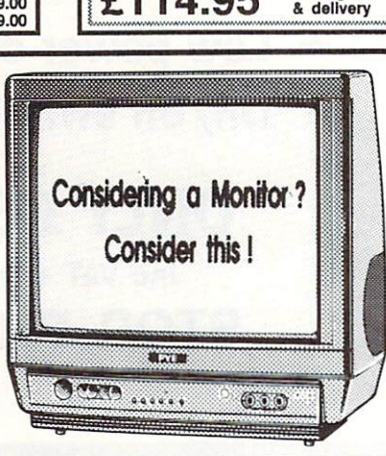
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The CODE CLINIC

Jolyon Ralph puts the boot in while Aj gets his head into the official Amiga reference books

EVERYONE who uses the Amiga knows that there are disks that boot and disks that don't. Take the Workbench disk, for example. When this is thrown in the drive it autoboots Workbench. However, when you put the Extras disk in on power-up, it does nothing except ask you to put in another disk.

More experienced users will know that a non-booting disk can be turned into a booting one simply by issuing the INSTALL command from CLI. What is not so readily known is how this works.

When a disk is inserted in DF0: after a power-up or reset, the Amiga loads in the first two sectors of the disk and examines them. If everything is correct it will carry on booting the disk. If, however, the bootblock is empty or contains an invalid bootblock, it will ask for another disk.

The bootblock contains a machine code routine to check if the DOS library is available and, if it is, returns control to booting the disk. There is enough space on the bootblock to tag on your own routines after this check and before the return to the booting process.

The listing shows a standard INSTALL type bootblock after disassembly. The first thing to notice is that before the code starts there are three longwords of data. These are very important. If they are not correct the disk will not boot.

The longwords begin with the string, *"DOS",0,* which signifies an AmigaDos disk and tells the Amiga which file system is used. The zero value indicates the StandardFileSystem, a 1 would indicate the FastFileSystem, which is not yet properly supported on floppies.

The second word is a checksum to make sure the bootblock has not been corrupted or tampered with. It is calculated by adding together all the bytes in the bootblock – except the checksum itself of course – and inverting the total.

The third word is a pointer to the root block of the disk and should be left equal to 880 ($370). A disk is divided into 80 cylinders, each of which is two tracks, upper and lower. Each track is further divided into 11 sectors of 512 bytes each. Hence the total storage of an Amiga disk is: 512 x 11 x 2 x 80 = 901,120 bytes or 880k (1k = 1,024 bytes).

The rootblock – not to be confused with bootblock – is at the beginning of cylinder 40, hence it is 11 x 40 x 2 = 880 sectors into the disk. However, this longword does not seem to be used and can be changed to anything without harming the bootblock. I would strongly advise against changing it unless you really need the extra two bytes – it may be needed in future versions of the Amiga's operating system.

After these 12 data bytes, there are 1,012 bytes left to store the machine code program to be run on boot-up. The official boot code, which *must* be included in the program if you want the disk to boot, takes only 37 bytes, leaving 975 bytes free for your own code.

What sort of things can you do on a bootblock? Well, firstly there is the dark side of things. Viruses like the SCA and Byte Bandit viruses are code programs stored on the bootblock that execute at the boot stage, writing out new bootblocks to other disks inserted

➤

```
 dc.b "DOS",0           ; Signifies a DOS disk
 dc.l xxxxx             ; Bootblock checksum.
 dc.l $370              ; Pointer to root block

boot:                   ; The start of the machine code
 lea DOSname(PC),a1     ; point to 'DOS Library' string
 jsr FindResident(a6)   ; Execute EXEC Library routine
 tst.l d0               ; Check if library is open
 beq.s error            ; If not, error
 move.l d0,a0
 move.l 22(a0),a0       ; Get library revision number
 moveq #0,d0            ; Clear d0
return:
 rts                    ; Carry on with boot process

error:
 moveq #-1,d0           ; Put -1 in d0 (error return code)
 bra.s return

DOSname:
 dc.b "dos.library",0
```

On the Cover Disk

IN THE Code Clinic drawer you will find the Bootwriter program. To install one of the bootblocks included on the cover disk, put the disk you want to install the boot on into DF0: and type from the CLI :

```
bootwriter xxxx.boot
```

where xxxx.boot is either the *60hz.boot* or the *filter.boot* code. You will have to copy these two files, plus Bootwriter, to RAM: if you only have one drive.

The program will give an error if the file is not a bootblock or if it cannot find the file. Expect an error if the disk is write protected or corrupt.

Bootwriter will calculate the bootblock checksum and write it out to the disk. Reboot your Amiga and your bootblock should be working.

Also in this drawer is a program called CheckAgnus. Run this from CLI and it will tell you which versions of the Agnus and Denise chips you have in your machine. If you have the new ECS (Enhanced Chip Set) Agnus, you can use the 60Hz bootblock.

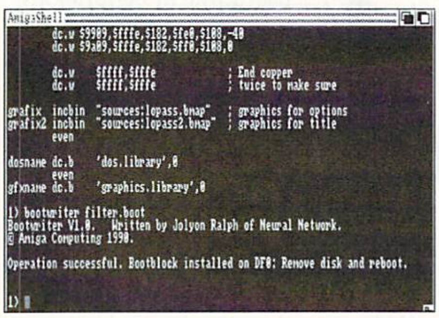
However, just because you have the ECS Agnus doesn't automatically mean you have 1 meg of chip memory. Amiga 500s need an alteration to the motherboard first to allow this.

➤
into the machine.

There is no shortage of PD boot-blocks to fool your Amiga into thinking it only has the one disk drive or only has 512k of memory so you can run some badly-written German demo or game that freaks out on an expanded system.

On this month's cover disk I have included two bootblocks for you to mess around with. The first will allow you to switch the low-pass sound filter on or off. Note that this can be done on most A500 or A2000s but *not* on the A1000 or very early A500s.

The second is a bootblock to switch between 50Hz and 60Hz modes. This



Writing your bootblock is made simple with just one command from the CLI line



Sigh. Perhaps our ***next*** *new Amiga will have the new chips*

needs the new Fatter Agnus chip so will only work on a very new Amiga. You can test which Agnus chip you have with my CheckAgnus program, also provided on the cover disk in the Code Clinic drawer.

There's also a program in there called Bootwriter, which will transfer a program you have written on to the bootblock of a disk.

Once you have tried out the two example bootblocks, look at the source code for either, as they are almost identical. You will find that the beginning is the same as the standard AmigaDos bootblock described earlier, but with the addition of the following:

```
movem.l d0-d7/a0-a6,-(sp)
bsr.s start
movem.l (sp)+,d0-d7/a0-a6
```

This bit of code allows the boot-block to call your own program – the instructions following the *start:* label – before returning to the boot process. All the registers are saved before calling, and they are restored on return. This is very important.

There are a number of other points you must consider when writing code for a bootblock. To start with, all code is loaded into chip memory. Do *not* use a SEGMENT command, because it would be meaningless in a bootblock.

In the Devpac 2 assembler, set program type to executable, debug info to none and output to a disk file. This will create an executable file which will have 32 bytes of AmigaDos information at the beginning of the file. The Bootwriter program ignores this data, which is not needed for the bootblock. Assuming the bootblock is correct and the options have been set as stated, you should have no problems installing a custom bootblock.

Another point to remember is that the bootblock will not load into the same address each time, so you must use PC-relative code, for example: *lea dosname,a1* must be replaced with *lea dosname(pc),a1*.

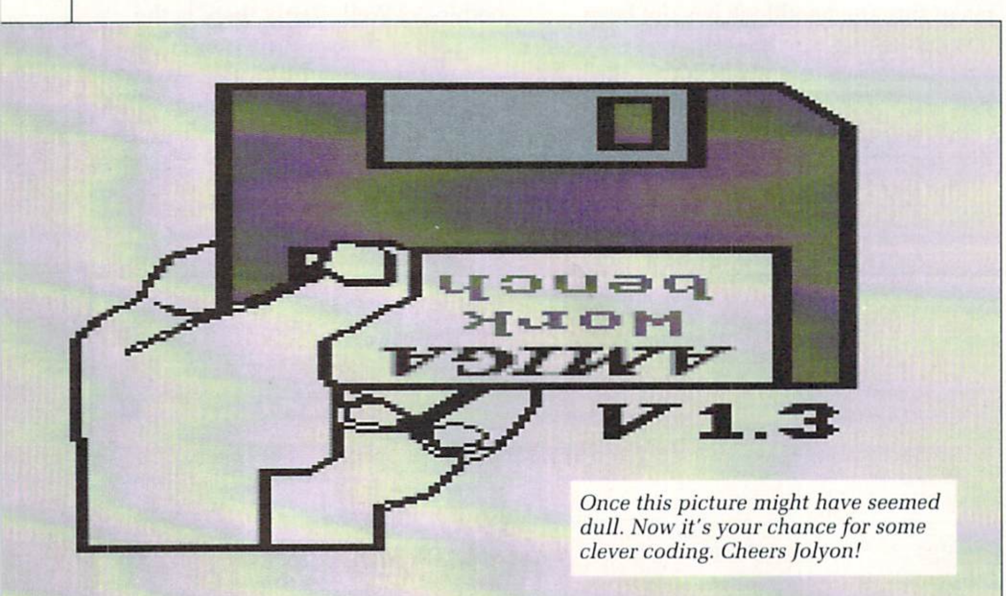
Any non-PC relative code will cause the bootblock to crash or produce unpredicted results.

Your code must be shorter than 1,024 bytes or it will not fit on to the bootblock. You don't have to worry about calculating the bootblock checksum, leave it set to zero because Bootwriter calculates it for you. Bootwriter will not recognise a file as a bootblock unless the first longword is set to *"DOS",0*.

You can use any library commands in the bootblock except those from the DOS library.

A lot can be done in 1k – many

➤



Once this picture might have seemed dull. Now it's your chance for some clever coding. Cheers Jolyon!

moons ago it was the standard memory provided with computers like the ZX-80 and ZX-81. I have even seen a game on a bootblock. The examples I have shown are fairly simple, but the principle behind all bootblocks is the same.

Finally, a warning: Before installing *any* bootblock make sure you are not installing it on an original piece of software. Always use a backup. Games with custom bootblocks, most of them at least, will be destroyed by installing a new bootblock.

Do not install a new bootblock on a disk which already has a custom bootblock. Check the disk with VirusX first. If it reports that the disk in DFx: has a non-standard bootblock, then do *not* use Bootwriter on it.

A blank formatted disk is a safe one on which to test out Bootblock routines.

Proper programmers need the proper books

WE GET one type of programming query more than any other here at the *Amiga Computing* offices, and it is always along the lines of:

"I want to start programming the Amiga. Do I need all those books?"

This is a very valid question because "those books" are the official Amiga reference books. A complete set of three could cost you more than £80 and several inches of valuable shelf space. Do you really need them all? What are they actually about?

Well, yes, you do need them if you want to program the Amiga. There are various other publications around, most notable being the excellent Abacus books, but for the last word I would go for the offical guides.

However it is not very likely that you will need all three books, not all at once, anyway. What follows is a brief description of the information to be found in each book.

By the way, before signing any cheques make sure you are buying the latest version of these tomes of knowledge. The ones you want are a palish blue colour.

I AM always on the lookout for clever solutions or techniques. Your Basic program to calculate pi to 30 decimal places might be just what someone is looking for. Or have you found a neat way in assembler or C to create software sprites with the blitter? Want to be famous? Send it in.

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Hardware Reference Manual

THIS is the book all hackers swear by and all serious programmers swear at. If you are at all interested in programming the Amiga as though it were nothing more than a C64 with extra bells and whistles, then this book is *all* you need.

It deals with the various aspects of the Amiga by examining everything at the very lowest level. The custom chips, the interface hardware.... you name it, it's here.

The various chapters concentrate on the copper, the playfield hardware, the sprites, the audio department and the blitter. The sprite section alone is a wonderful example of a well-written book.

The Hardware Reference Manual will teach you about the chips that actually make multi-tasking and Intuition possible. If you would rather stick to programming in C or Basic, then you will not find anything here that will make your life easier.

Rom Kernal Manual – Libraries and Devices

THIS is the book that will send Wimp fanatics everywhere into shivers of ecstasy. Well, perhaps that's a slight exaggeration, but you get the general idea.

If you want to know anything about Intuition, you're in luck, for there is a complete tutorial on using the Amiga's wonderful operating system.

But there is so much more, with introductions to animation and graphics, disk operations and speech.

Be warned though, this is no book for Basic programmers. You may find some of the examples useful, but to try everything out properly you'll need to be programming in C. There are hundreds of example listings, demonstrating everything you need to know.

For programmers new to the Amiga, here is the definitive guide to writing software. It should probably be the first Amiga book you buy.

Rom Kernal Manual – Includes and Autodocs

AFTER all the excitement of the first two books, this one may come as a slight disappointment. The majority is made up of a list of all the functions available from within the libraries. If you want to know the exact format of the command to plot a pixel, then it's here somewhere.

The function lists are called autodocs because they have been automatically extracted from the original source code. Can't say fairer than that.

The other important section of the book details the IFF format in excruciating detail. Starting with graphics examples, then moving on to sound and text, this is where you look if you want an explanation on how to make your programs IFF compatible.

Unless you want the IFF info, this volume is best thought of as a companion to the Libraries and Devices.

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Publish and be damned

HISOFT is entering the vicious world of publishing with a new range of books, hoping to retain and expand its reputation as a value-for-money and user-friendly sort of organisation.

DTP at a Glance is one of the first of many volumes off the production line and is aimed, cunningly enough, at those of us who are just starting out in DTP.

The book does not attempt, in only 90 pages, to tell you all you ever wanted to know, but does tackle the terrible problem of jargon. DTP is where the two jargon-ridden industries of computers and publishing mix.

The results are understandably horrendous. Unless you're on a degree course in semantics, it's not much fun.

As well as explaining terms used, attempts are made to discuss the concepts behind the various processes under consideration. Topics cover such matters as balance and layout design as well as the more mechanical aspects of binding, folding and other production concerns.

Fonts are covered in exacting detail. After reading this book you will be able to describe a font in such overboggling detail that absolutely nobody will have a clue what you're going on about except another DTP freak. Or a typesetter.

The text is accompanied by frequent and relevant diagrams which are explanatory and useful, a bit of a rarity in this sort of publication. The examples are consistently well chosen, unambiguous and well presented.

Although only a relatively short book, many different topics are covered – and quite well at that. Some subjects conspicuous by their absence are the use of colour, drop shadows, bleeds and captions.

DTP is one of those newish fields that attract lots of authors and publishers who reckon they can write any old waffle, bung a nice price tag on it and flood the shelves of Foyles and Waterstones with so many copies that unsuspecting newcomers open their wallets first and ask questions later. This is not one of those books. Although I do find it highly ironic that the book was actually *typeset* by a company in Luton.

It is by no means meant to be a definitive reference book on DTP, rather a primer for those just starting out or as a jargon manual for the desktop poser. Its convenient size and realistic price help it to achieve just that.

Nic Veitch

BOOK REVIEW

Title: DTP at a glance...
Author: Rob Pickering
Publisher: Bookmark Publishing
ISBN: 1-85550-002-7
Price: £9.95 (90 pp, paperback)

Roll DTV!

YET another light blue Abacus book plops on to the desk, this one promising to reveal the deepest secrets of desktop video.

DTV is the latest hobbyist buzzword, and in its simplest form is the combination of computer generated output with live or pre-recorded video signals. The archetypal example is putting credits such as Best Boy and Key Grip over your summer holidays, but this is only a tiny part of what is possible.

There are two main problems facing those trying to get started in desktop video: The high cost of the equipment and a general lack of information. This book does a good job of redressing the second point.

Early chapters do the right thing and get all the tedious mucking around with video signals and the various bits and bobs of jargon out of the way. Everything you ever wanted to know about different video standards is explained in a way which actually makes a bit of sense.

By far the largest portion of the book deals with all the delicious technical equipment and software you'll need. This section is well written and explains the pros and cons of as many different types of genlocks, sound and video digitisers as the author could get his hands on. Essential reading to ensure you don't waste your money on inferior products, or on something which is not exactly what you had in mind.

Finally, some general hints on production and scripting, all rounded off with ideas for making use of your new-found skills and a few example shopping lists.

I have several slight reservations about this book. To start with there are no photographs. None at all. With a media as completely visual as video, it seems crazy to use only one or two simple mono drawings to illustrate points. Instead of describing the process of calibrating cameras with colour bars and so forth, Abacus could have printed some useful charts. A missed opportunity to be really clever.

The other faults are only consequences of the book's stateside origin. As a result, not all of the products detailed in the text are available in this country. Even if they were, the nature of the PAL and NTSC colour standards casts a shadow over their compatibility.

If this book had been written in Europe it would be the best reference book to date. As it stands, it's about the nearest you'll get.

John Kennedy

BOOK REVIEW

Title: Amiga Desktop Video Guide
Author: Guy Wright
Publisher: Abacus
ISBN: 1-55755-057-3
Price: £18.45 (257 pp, paperback)

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Amiga Arcade

Curiouser and curiouser



Take care of the sense and the sounds will take care of themselves

AFTER a swift spot of contract signing Magnetic Scrolls is licensed to Virgin Mastertronic.

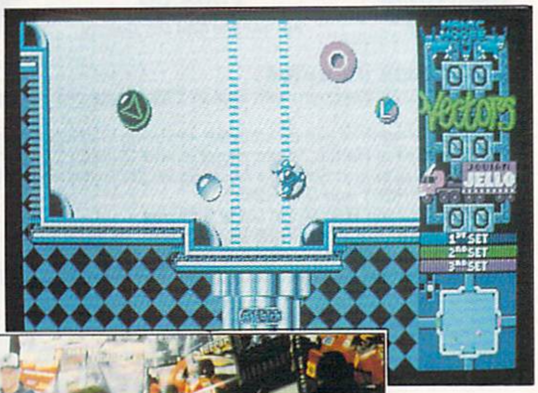
Magnetic Scrolls was formed in 1984 by Ken Gordon and the near legendary Anita Sinclair.

Their first release was The Pawn, a multi-award-winning blockbuster which set the standard for excellence in computer adventures.

The first title to come under the wing of Mastertronic is Wonderland, an extravaganza based on the works of the bizarre genius Lewis Carroll. This will include a re-think on the gaming environment with new features such as interactive illustrations, auto-mapping and other goodies.

More than 100 locations – including the sherbet fountain – and some of the weirdest puzzles you are ever likely to come across make up the game that everybody will soon be talking about. Make a date with Wonderland on the shelves in early June.

All fired up





Who was that bald guy?

TO CELEBRATE the imminent release of Projectyle, the new mega- groovy hyper-brilliant game from Electronic Arts, a press play-off was organised.

Unfortunately what with the handsomest, most brilliant members of staff being all tied up writing a magazine and that sort of thing we could only spare Jeff.

Well, I'm sure he was never odds-on but he didn't do too badly and came a close-runner up to Clare somebody from some other less worthy mag. Bah!

The game itself is a sort of three teams of four players and a puck affair. There are five(?) quarters to the pitch, each with a goal – one for each team and a "frantic" zone where anyone can score.

With up to three human players at once the game can become fairly fast and furious – even downright violent, but in-game options can bias play towards the strategic and statistical.

The completed game should be out by the time you read this, at a big and bouncy price – £24.99.

IF YOU haven't had enough of football games already Empire is releasing a World Cup 90 compilation.

The pack will include Kick Off, Tracksuit manager and the widely acclaimed International Soccer. The *World Cup Year 90 Compilation* will retail for the almost on the ball price of £24.99.

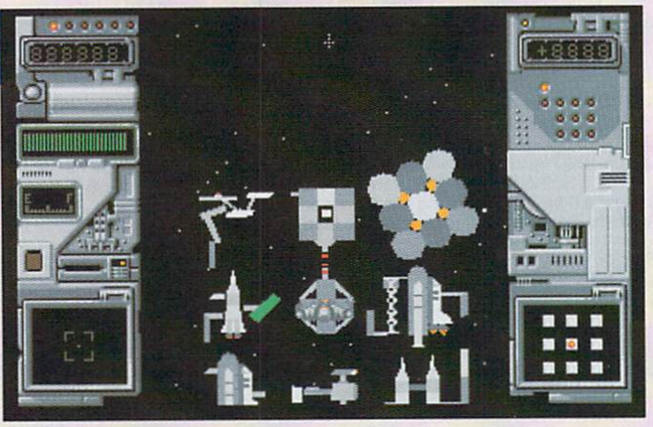
Magic Roundabout

U.S. GOLD is in a spin about soon to be released Rotox which features a new (it says here) technique called Rotoscape. This will apparently rotate the whole world through 360 degrees.

Rotox - the man, the cyborg, the game - was an elite marine injured during combat and transformed into a metal mishap by 22nd Century science. Now the powers that be have constructed a proving ground to test their latest investment.

Shoot nasty things, dodge tricky things and make your way through 10 levels of rotating real estate before you get out. Bah, would've been better off with a wooden leg.

The wonderful Rotox should be around your local store circa. June.



All the latest news on the games software scene

It's not quite a Jaguar



IF YOU'RE the sort of person who drools at the thought of getting behind a turbocharged, intercooled, four cylinder in-line, 16 valve dual overhead cam engine then Thalmus has a surprise for you.

The company's new title, *Q8 Team Ford Rally*, will put your mitts on the steering wheel of a Sierra Cosworth 4x4. Three stages of rally action will test your razor-sharp reflexes.

If you get bored with the route you can take off on your own across country or on the public highway. Watch out for the boys in blue though – remember, they drive RS Cosworths too!

REVIEWED THIS MONTH

90% Player Manager
86% Tennis Cup
84% Their Finest Hour
83% Treasure trap
81% Wipe Out
79% The Third Courier
78% Cloud Kingdoms
77% Tower of Babel
70% Spidertronic
64% Ultimate Golf
60% Sim City Editor
58% Gravity
37% Impossamole
34% Protector

On the scrounge

A MORTAL being propelled through time, wandering the paths of infinity in search of his homeland. Sounds like an average Friday night on the way home from the pub, but actually it is the plot to Scavenger, a soon-to-be-released game from Hewson.

Brilliant horizontally scrolling graphics at 25 frames a second and eight channel sound are promised.

Scavenger is due for release in late July.



Early graphics from Scavenger by John Phillips

CORE DESIGN, the name behind such titles as Rick Dangerous, Action Fighter, Dynamite Dux and the um, interesting Impossamole (reviewed in this issue) is now going it alone.

First solo effort will be Corporation, a game of industrial espionage in the near future. A nasty Megacorp is planning and building the ultimate killing machine. Your aim in this 3D rôle-playing adventure is to nip inside the well defended research labs and nip out again with some incriminating evidence.

Corporation will be sneaking into all well-defended computer stores in July.

THE SALES CURVE team are the latest entrants in the "let's change our name" competition. Their forthcoming titles Rodland (a cutesy thing), Big Run (a rally thing) and Saint Dragon (a blasty thing), not forgetting SWIV (the new name for the Silkworm sequel) will now be published under the name The Cu... sorry, what was that Dan? You've changed it again? Sigh... will now be published under the name "Storm".

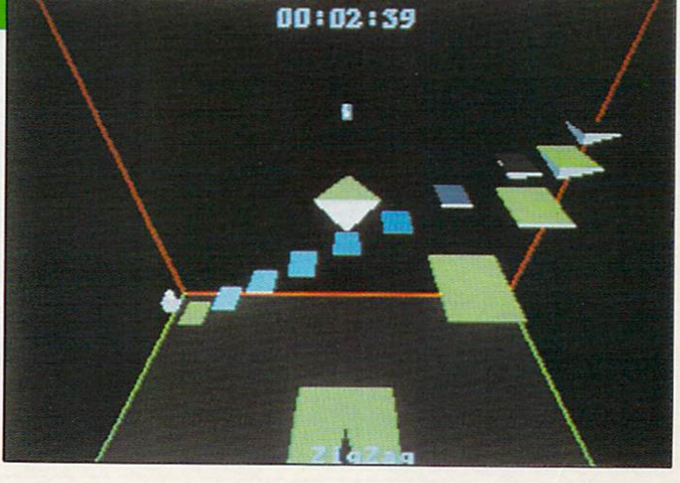
Is that OK now Dan? Or is your name still Dan?

Freakout weirdo stuff

ALPHA WAVES is not just a new game but a new concept. At least that's what the press release from Infogrames says.

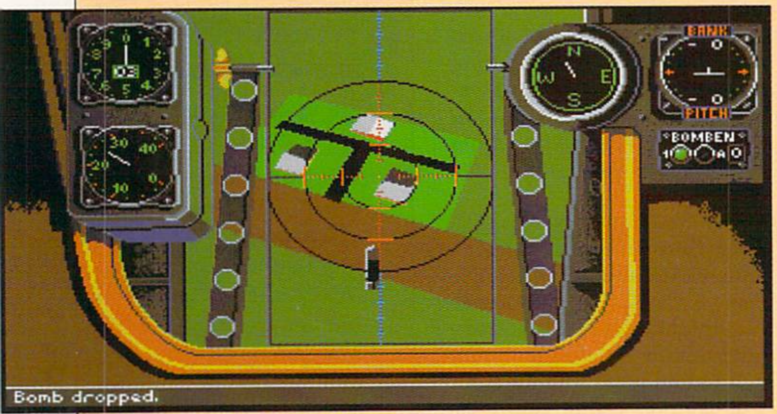
Apparently the game will also "stimulate the brain and bring it to a deep relaxation which can provoke a state of dreaming" – probably French for "it sends you to sleep".

Actually that's probably a bit cruel. It looks very interesting and there are a few mellow dudes around this office who wouldn't mind getting hold of a copy.

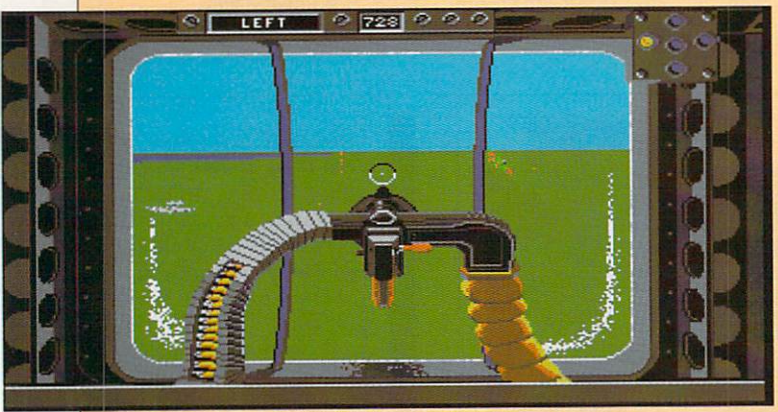


THEIR FINEST HOUR

Bandits at tea-time!



Gravesend is in for a battering



The belly gunner of a Heinkel is always on the job

WELL I mean, the Hun should've known better shouldn't they? For a start they hopelessly outnumbered the brave Few, a situation which has not failed to give a result for the Brits in a good few centuries.

Secondly, the venue chosen was *the corner of some foreign field*, which was very convenient for the RAF lads. They could be very British having a spot of high tea or a game of bowls, pop off for an afternoon's war and then back home for bridge and cocktails in the evening.

Lastly, and most unfortunate of all for the Bosche, was the time pencilled in for the big bash to take place - their finest hour. I mean anyone else would've seen it was a complete non-starter, but there you go.

The first thing to do when you get hold of a copy of TFH is install the bally thing on your hard drive. Saves all the nasty messing about changing disks, don't you know.

Clamber into the cockpit of your Spitfire or Hurricane and give the foe a jolly good battering. Or, alternatively, you can go and work for Jerry, flying Stukas, Heinkels, Dorniers and the like. God knows they need you, no backbone don't you see - can't even play cricket would you believe.

You'll find the cockpit layouts are fairly accurate, everything in its familiar place. Controls are all on the keyboard but you can use the stick or this new fangled mouse thingy for flight control. No foot pedals for rudder controls. Probably had old Dougie Bader on the design team.

Keep a record of a few of the few on the roster. Sorry, no chalk option. Names and planes is all, but it keeps a running total of missions flown and confirmed kills.

Fly a few training flight to get the hang of things, then move on to proper combat or a full war scenario. Your overall battle strategy will have to be pretty damn cunning what with the Luftwaffe outnumbering you and everything. Plan your campaign on the big map, deciding where and how to scramble.

Eyesight's not what it was old boy, can't quite make out the call sign on a passing Hurricane but I can still distinguish them from a Me109 at about two miles. Something to do with filled polygons and stuff so the technical



Remake a few David Niven films with the in-flight camera

johnnies tell me.

The wonderful noises of lead ripping through enemy canopy seem different. Rather unimpressive. They tell me you need to have at least one Meg to hear them as well, whatever that means. Pish!

Activating the in-flight camera will give you a permanent record of your best kills. When you come to replay the film due to some devilishly fiendish technical whatnot you can position the camera anywhere you like. Chasing behind your plane, following bombs, from the ground and all that sort of rot, don't you know.

If you decide to go and work for the foe you'll be on double time. They must be short of decent crew, because in the bombers you have to fly the whole thing yourself – cockpit, gunnery, bomb bay – it's a bit of a tall order.

If you go down over the green and pleasant land the old Dads Army will soon have a pitchfork in your back. No more saurkraut for you.

The past is a foreign country and all that, so I think we should leave petty jingoism aside. However morally bankrupt the idea is, there is nothing like a good dogfight, and the golden age of dogfighting was 1940.

Mr Churchill also once said: "Jaw-jaw is better than war-war". He obviously never played this game.

Green

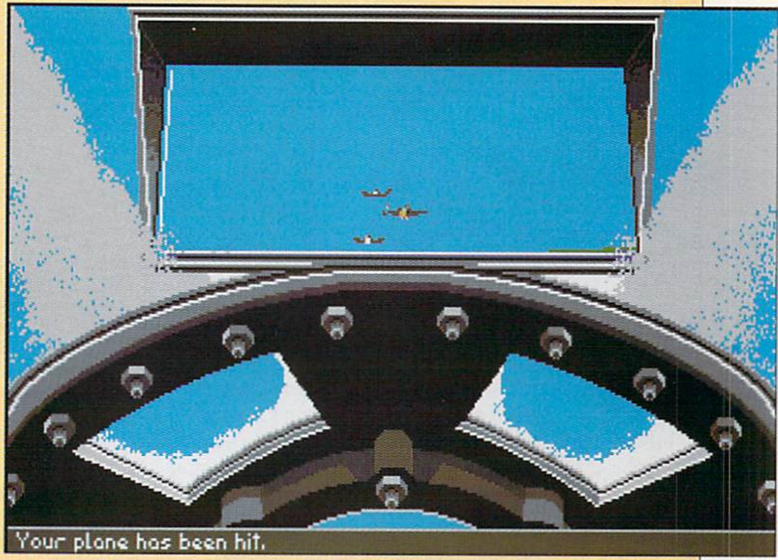
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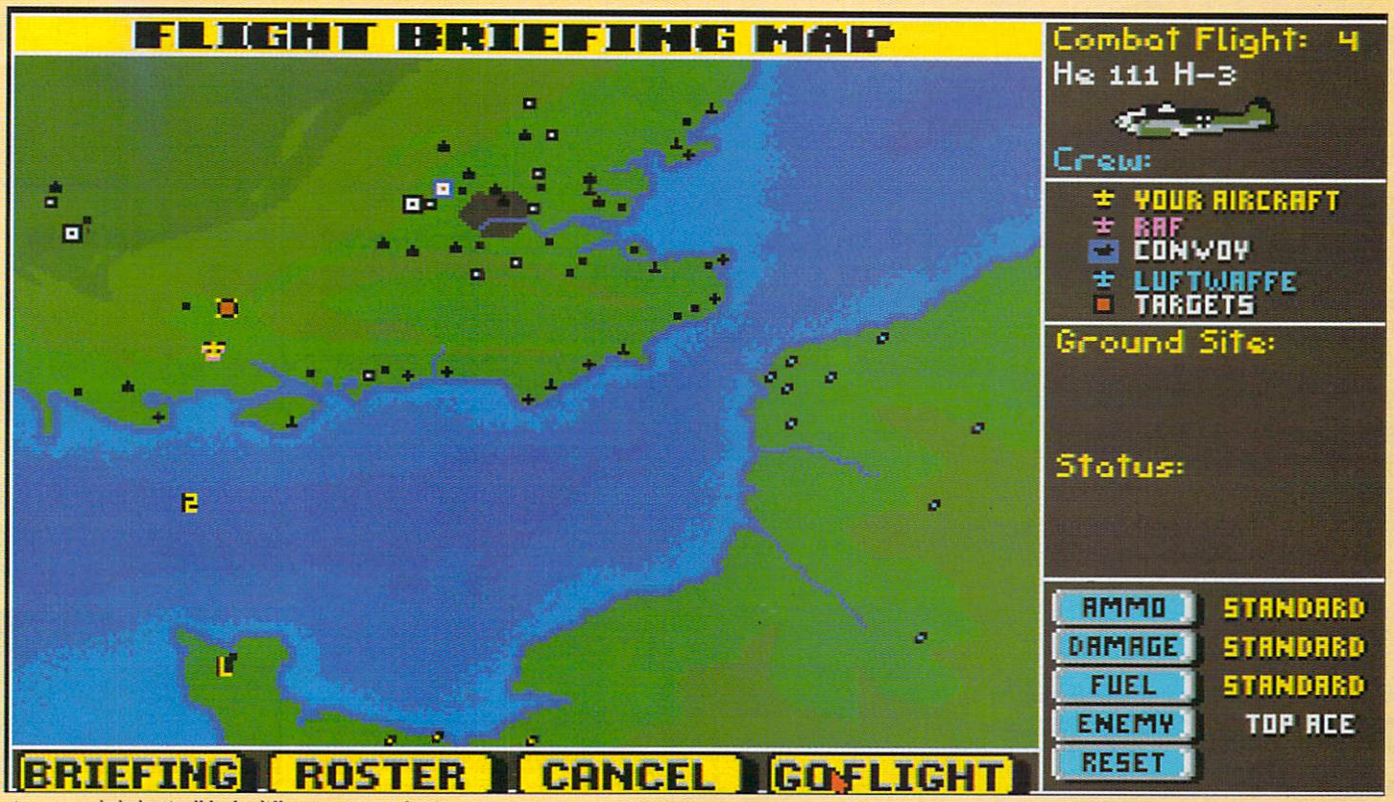
Overall – 84%



Tally ho! The old spitfire Mk1 doesn't like inverted flight



Always look in your rear-view mirror before pulling away



A map can help but it all looks different at 20,000 feet

PLAYER MANAGER

Come on ye greens

RECENTLY I sent a messenger pigeon to good old Green, the pipe-smoking wheelchair bound Reviews Editor, with the following message: "Listen spongehead, I've got hold a copy of Anco's Player Manager, it's wonderful, do you want a review ?"

Back came his carrier sparrow (anything to save money) with the reply, "Um, ahh, well, that be the question laddie. Now then, don't be getting all hasty like, I'll have to consult me Old Fogeys Almanac first".

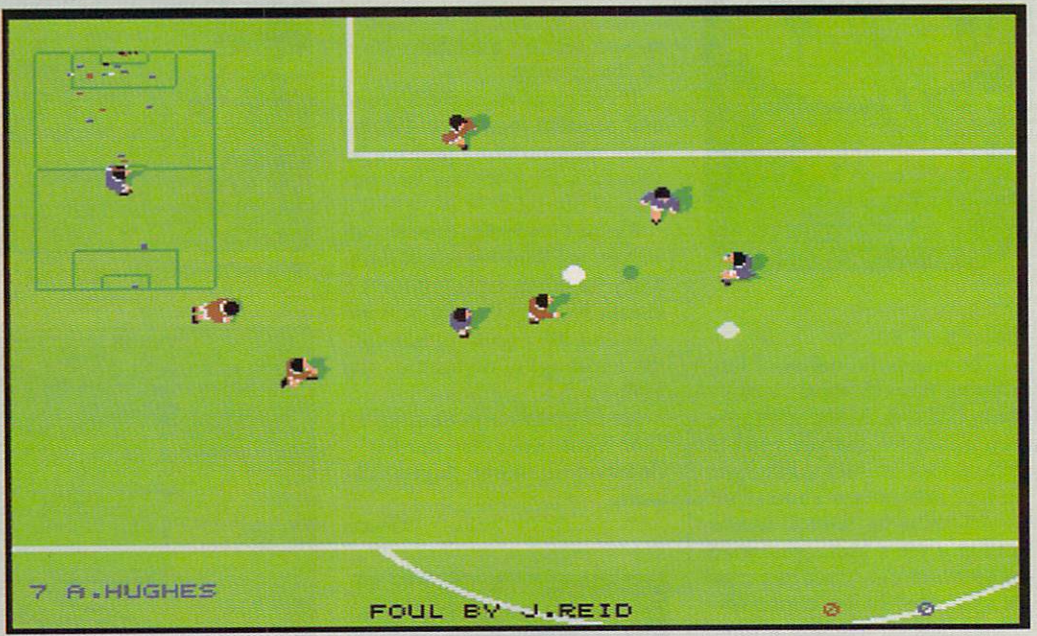
Many days later I visited his feather and dropping-festooned office and shook him awake. "Well you dozy old retard, what's it to be. A brilliant and witty review of the best management-with-action-bits game ever or a poke in the eye with a blunt stick ?"

"Eh, what did you say your name was sonny ?" he muttered while brushing away the cobwebs covering his pipe.

Lacking the requisite patience for dealing with the old and infirm I grabbed him by the tweed lapels and screamed, "Do you want a review or not you dozy half-wit?"

"Eeh, ar suppose so then lad. We'll have 400 words by tomorrow's pigeon post then".

With a growing sense of horror I suddenly realised that I'd written over 200 words already, and that there was scant room left to wax lyrical about this most magnificent of management games. Enough scene setting then, on with a particularly terse review.



No way ref, he took a dive. Bah, Palace without a chance anyway

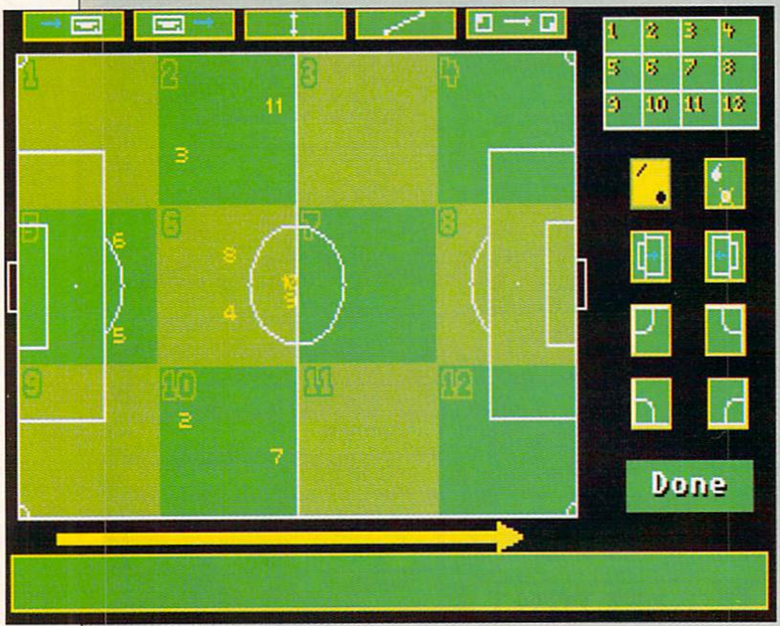
You are the player manager of a Third Division club, with a decent size squad, money enough to raid a very large transfer market (there are more than1,000 individually detailed players in the league), a cup competition, coaching tactics, and the chance to play in the Kick Off style games (which only last six minutes in total).

A board of directors monitors managerial performance, giving you the boot if you cock it all up, vetoing transfer deals if they involve running up a large overdraft and actually suggesting you spend some money when you have a huge cash mountain.

Players are rated on physique and skills out of 200. These include pace, stamina, endurance and violent tendencies. Be aware that players with poor stamina virtually give up moving towards the end of a game.

Passing, shooting, tackling and goalkeeping are the skills, and are relevant according to position played. Some skilled players may be better off being retrained to be a striker instead of say a midfield player.

The transfer market is excellently done, involving limited time per week and price haggling. Selling players requires them to be placed on the transfer list, and you having to wait for offers from interested parties. It is invariably



Back to square one with the tactics editor



Say 60k and I'll throw in my back issues of Amiga Computing

Excellence

impossible to shift a player for what the board seems to think he is worth.

Tactics are everything. There are the standard 4-2-4, 4-3-3, 4-4-2 and 5-3-2 formations, but any of these can be replaced with your own custom formations and tactics. The pitch is split into 12 sections, and the players can be re-arranged regarding what positions to try and take when the ball enters each one. Corners and kickoffs are set piece plays that can also be designed.

When playing the actual games you can sit on the sidelines (eventually you have no choice because of retirement) or play in the games in Kick Off fashion. There are substitutions and injuries, disciplinary points for yellow and red cards, the ability to change tactics at certain points, and the ability to just control the player- manager and stay in position.

The gameplay is much harder than normal Kick Off, and it features pitches and goalkicks from Extra Time. Watching the game is tense and nervy stuff (you can always skip this part and have the computer generate the result only), and knocks the so called match highlights of other games into touch.

Needless to say its totally fab, and makes Football Manager I and II look like total plop. Why delay, buy today, football heaven... and other slogans Anco will use in its adverts with us, etc, etc.

Duncan Evans

Player Manager
£19.99
Anco

Sound
Graphics
Gameplay
Value

Overall – 90%

PROTECTOR

Cheap and cheerless

VALUE for money. Dontcha just love it? The concept of budget software is a good one. Sell games cheaper than everyone else. Sell lots of them. Get rich. Everyone is happy. Aren't they?

The only drawback is that because the game is to be sold at what is seen as a cheap price, no one worries too much if it's not totally state of the art.

The software companies reason: "Ah, but you knew it was cheap. You only get what you pay for after all".

This time I get annoyed. Selling a game for a fiver is *not* a licence to release rubbish.

Protector looked as though it might be quite good: Simultaneous two player action, a couple of helicopters, nice copper-list sky. Then you start to play it.

Here is the plot. You collect all the parts to a bomb. Your opponent (who is a friend and/or the Amiga) does likewise. Once you have all the parts you drop the bomb on your opponent's base. Game over.

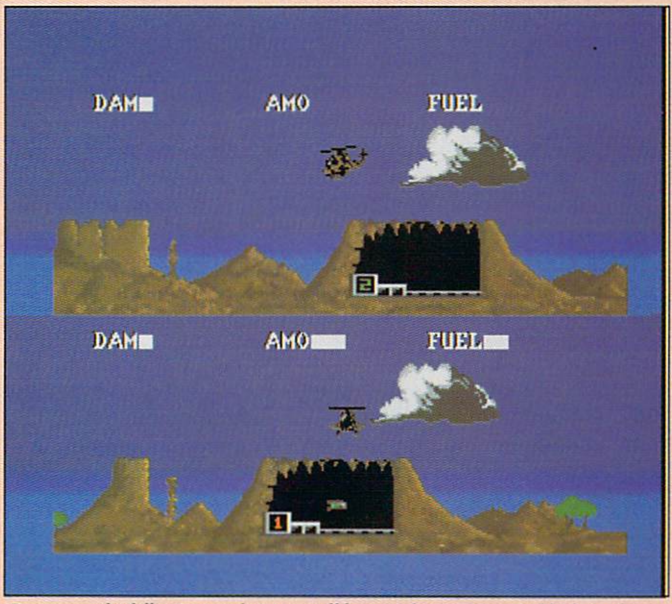
The alleged "gameplay" comes about because both players are trying to collect the same parts. It's like two people trying to fill buckets by stealing water from the other with a yoghurt cartoon. But less fun.

My total time spent playing before chucking in bin - half an hour.

Now if someone were to release a *good* game at this budget price I would be a lot happier. And you never know, they might sell even more too.

But if I'm expected to enjoy something so primitive that the authors were too embarrassed to put their real names on it, then 16 Blitz has another think coming.

John Kennedy

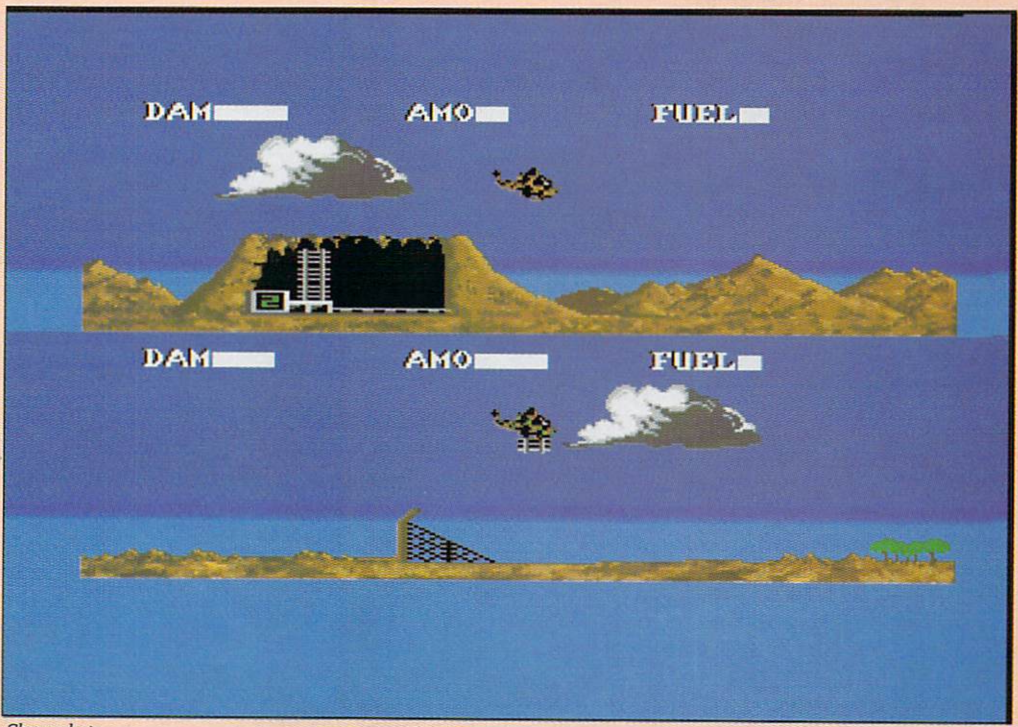


Re-arrange the following words into a well known phrase – game, rubbish, is, this

Protector
£4.99
16 Blitz

Sound
Graphics
Gameplay
Value

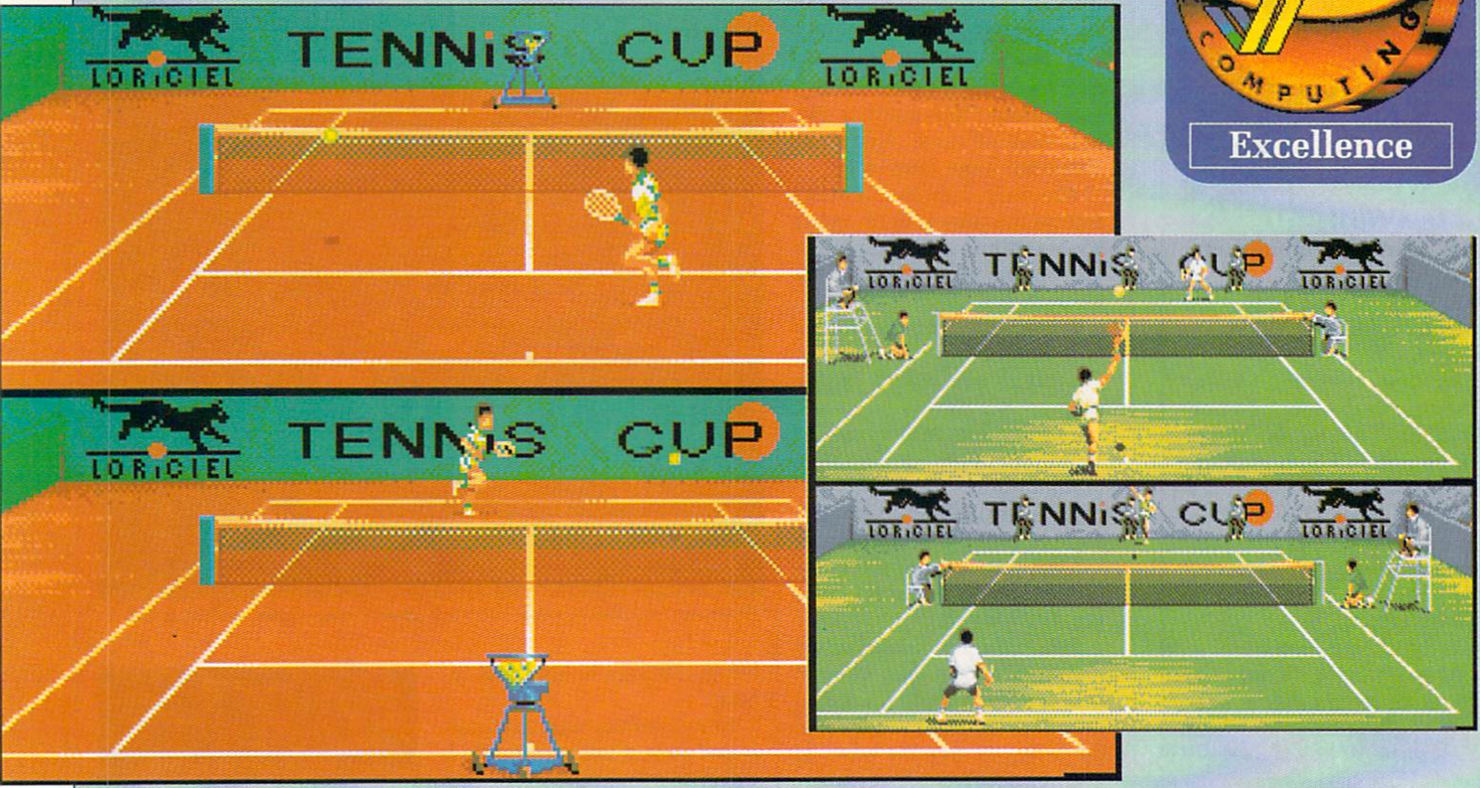
Overall – 34%



Cheap shots

TENNIS CUP

Court in the act



Get some pre-match practice against the machine to smarten up your game

WIMBLEDON is almost upon us, so what could be more likely among this month's crop of software than a tennis game.

Admittedly most software houses this year don't seem to be interested in sports sims unless the constituents include two teams of 11 men, a leather ball, several thousand trouble-dogged fans and a spot of politics. So I suppose it is a bit of a blessing.

Although the instructions for Tennis Cup are a little on the spartan side, there is quite a lot to do before you start strutting it on the court, so to speak.

There are six modes of gladitorial racket combat to chose from: Exhibition matches, tournaments, doubles, Davis Cup...virtually every avenue of permutation is ruthlessly explored.

You must also design your player. This takes the form of adjusting up and down his statistics for forehand, backhand, smashes, lobs and service.

Points can be subtracted from one statistic and added to another until you like the look of them. The programmers must have picked up a few tips from the Minister for Employment here. Among other things you can decide is their nationality, which determines which terribly rendered national anthem is played before the match.

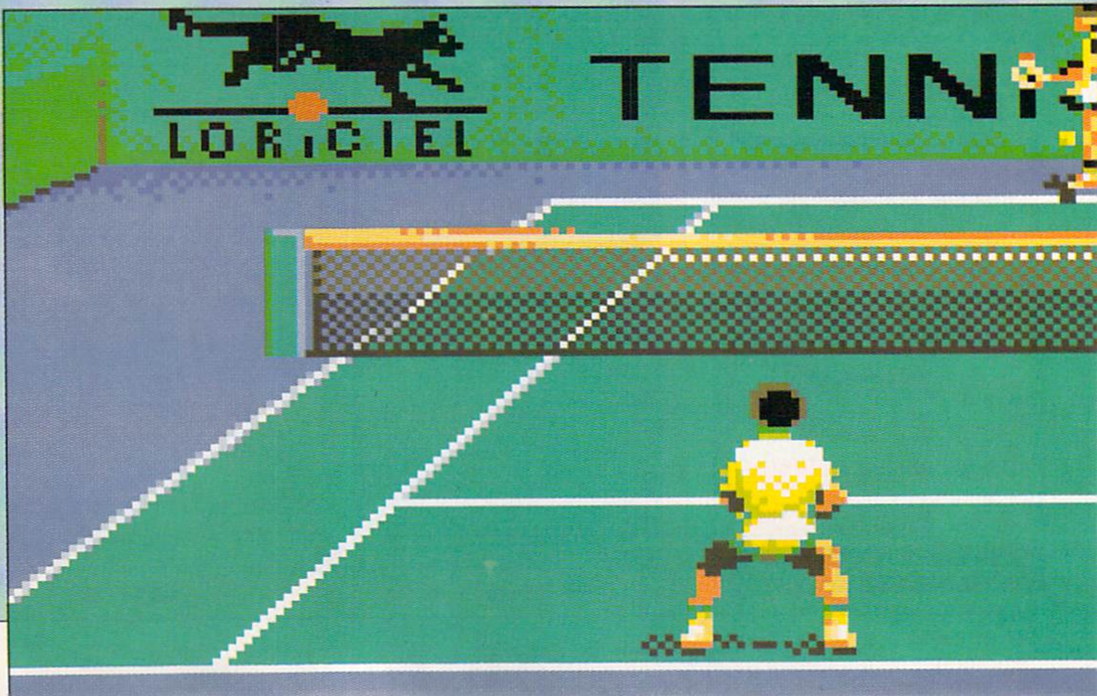
I was very upset to find there was no Irish option. There wasn't an English option either but that's understandable since England doesn't have any tennis players. *(And I suppose Ireland does? Ed)*

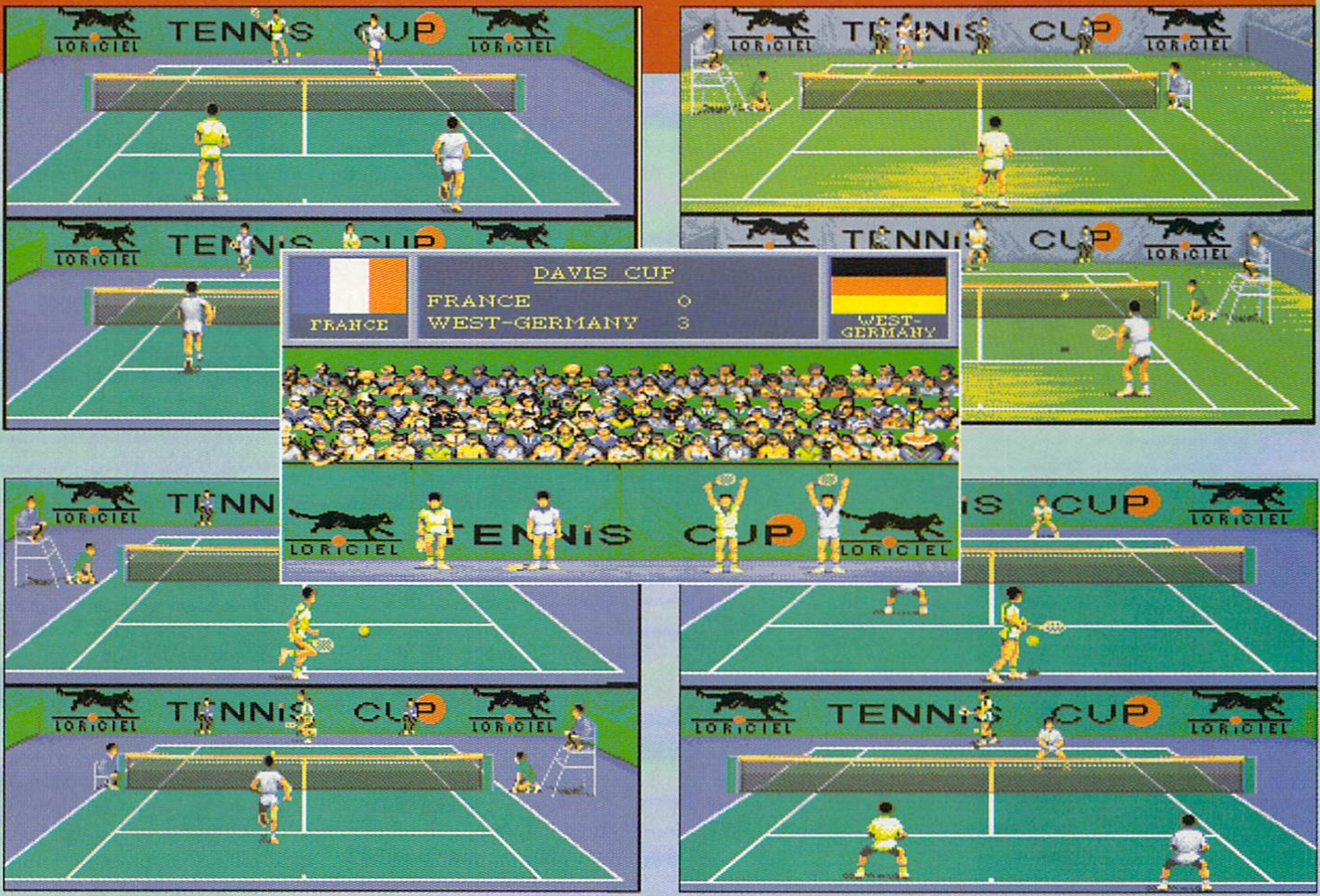
Different venues can be selected from clay courts, indoors, grass and hard courts. Personally I didn't notice any behavioural difference in the ball, but maybe I'm just not in tune with these things.

The graphics are, as you would expect from a French game, excellent. Animation is well done, as is the scrolling in the split views. The automatic service machine is a nice touch.

The most impressive thing about the Tennis Cup though is the sound. Excellent ball effects, the temptation is to think that they may have been sampled at some exclusive world final or something.

Likewise the grunts that accom-





pany some of the more adventurous plays could almost certainly come from Connors on one of his good days. Even the score is read out in traditionally officious speech-synthesis.

Depending on your position on the court and the style of shot your opponent plays, you have a limited vocabulary of returns. Spins, lobs, smashes, volleys and the like are all catered for.

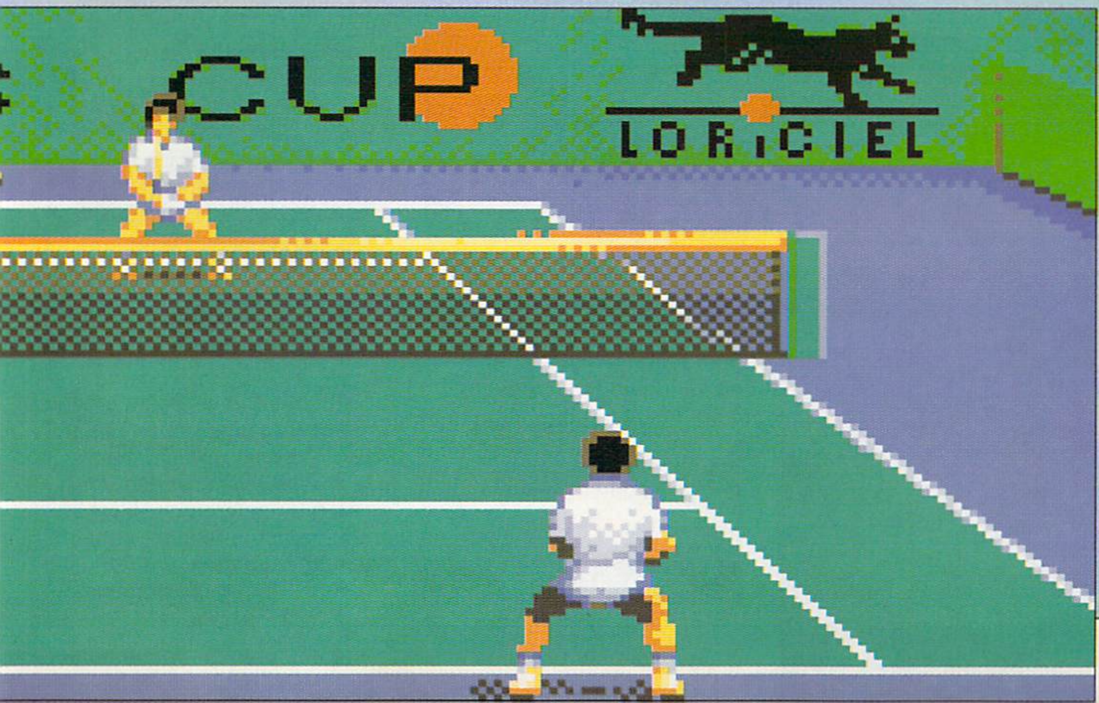
The game will automatically assume you wish to play backhand if the ball is behind you – very clever of it because half the time I accidentally ran too far.

It can be a little difficult to get into, but there is a training option and you can slow down the ball speed. Training forms an important part of the game in tournament mode. Training before the match can improve your statistics in the areas selected, as does experience throughout the match.

A whole series of vicious opponents will give lasting challenge, especially in the championship and Davis Cup scenarios. If you think you're so much better, you can always get a friend to play. That should makes things a bit harder, particularly if you play a doubles match with both of you on the same side. Players won't actually collide, but the confusion is as profound as in the real thing.

One of the only decent tennis sims around, so there's not much competition, especially as everyone and his uncle is concentrating on Linekar simulators at the mo. Full of nice touches, like the line judges heads following the play and the ball boys running out. The only thing missing is the rain.

Green



Tennis Cup
£24.99
US Gold

Sound
Graphics
Gameplay
Value

Overall – 86%

TREASURE TRAP

Do you believe in Cod?



WE aren't saaiillliinngg, we aren't saaaiilliinggg, under the waatttteerrr, under the seeaaaaeeaaa. No, that's not quite right, is it..? Ahem. Like a bridge under troubblllееd waattterrr... Nope, definitely off course there.

Aha, I have it – the definitive musical accompaniment to Treasure Trap. Altogether now:



One of the hazards of being overinflated

Once in a lifetime, water flowing underground. Into the blue again, into the silent water, under the rocks and stones there is water underground. Letting the days go by, into the silent water. Once in a lifetime, water flowing underground. Same as it ever was, same as it *ever* was....

There's more to it, but I sense a writ from EMI if I continue.

Treasure Trap is all about money and being under water. It's about searching the 100+ rooms for every single bar of Esmeralda's gold. Swipe all the gold and win the game? Easy, huh?

Hardly. Treasure Trap marks a return of the isometric 3D arcade adventure made famous by Ultimate so many years ago and given a brief reprise last year by Microdeal with Airball. Considering how good these games were, it's a surprise it's taken so long for another stab at the genre.

Anyway, being underwater, Treasure Trap deals with all things aquatic and, naturally, an ever decreasing air supply. Mapping is essential, as is noting where the canisters of oxygen are.

While a good gulp of the invisible stuff is to be recommended, don't waste it by grabbing a canister while you still have a nearly full tank. The result is that your diver's suit bulges at the seams and the little man takes on the aspect of a very fat person indeed.

After a rip gurgling tune on the intro and title page (listen and watch it all the way through) the rest of the sound effects in the game live up to the high standard set, perfectly complimenting the underwater thievery.

If there's any gold in a room an indicator flashes. This is just as well because half the time you can't see it. Moving boxes and crates, patrolling jellyfish, starfish and killer crabs are all there to help or to remove one of your five lives.

This being an arcade adventure, there are locked doors requiring various types of key, which thankfully do not disappear once used. The catch is that you can only carry four of them.

The gold disappears into some sort of aquatic Barclays Bank automatically, so you don't have to carry it around.

There are puzzles aplenty, some of them bordering on the Fu Man Chu for fiendishness.

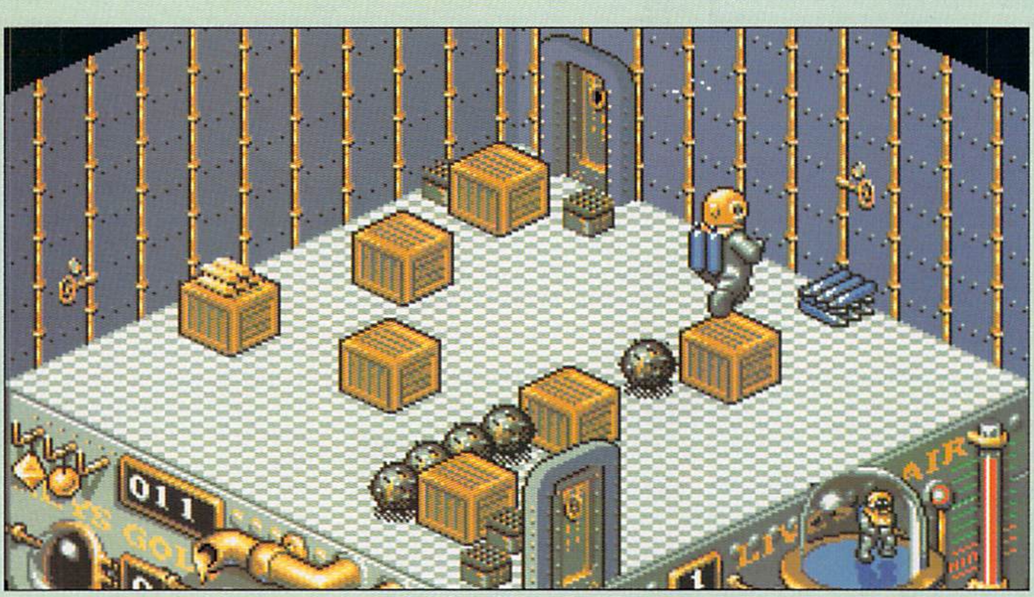
You can't get behind these crates where the gold is? What do you do? You use a loose crate to make a patrolling fish detour round the back and involuntarily push the gold out.

When the fish-like menace grows to great, or you find yourself trapped by a clutch of crabs, let loose the killer piranha! This is the fishy equivalent of a smart bomb – it goes into a beserk feeding frenzy, consuming every living thing in the room, except yourself, thankfully.

The 100+ rooms are going to keep you busy for quite a while, but none requires Mensa eligibility to solve or table tennis player reactions to execute.

With balanced gameplay, good graphics, snappy sonics and a sense of humour which nothing else has these days, Treasure Trap represents a return to traditional gaming values. A decent challenge, and a damn fine game.

Duncan Evans



A return to traditional, wholesome isometric graphics. Where did I put my ZX?

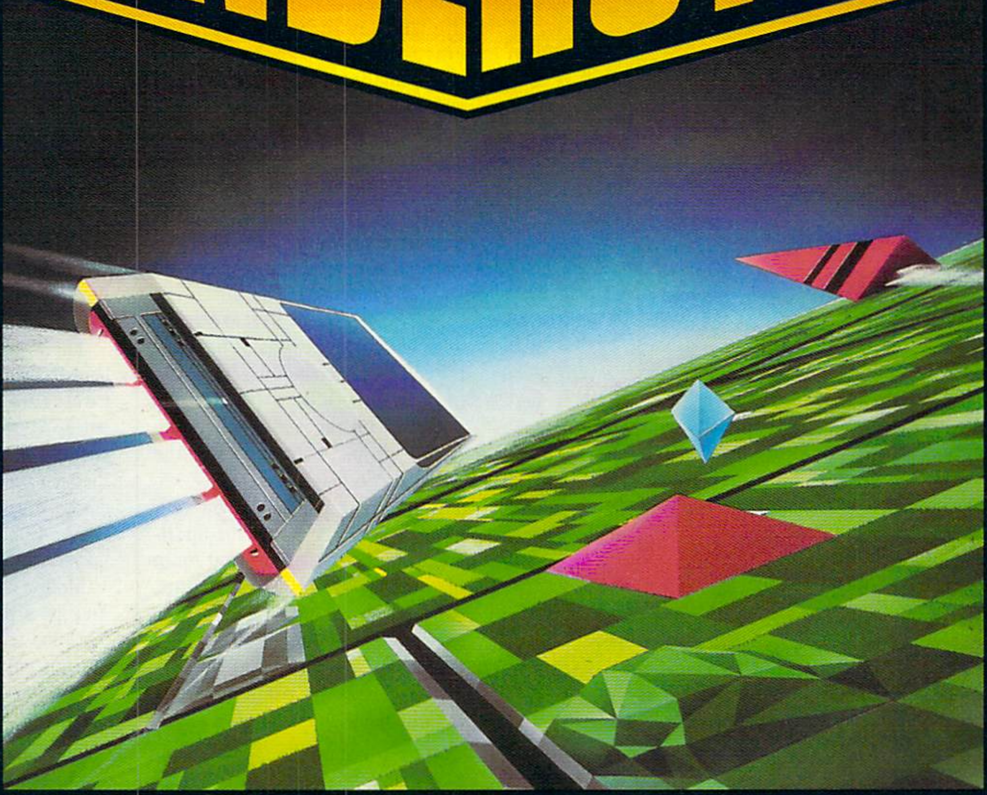


Treasure Trap
£24.95
Electronic Zoo

Sound
Graphics
Gameplay
Value

Overall – 84%

THUNDERSTRIKE





IBM PC VGA SCREEN SHOTS

IN JUST 200 years the Earth is controlled by the TV networks and defence industries. The ultimate TV phenomenon is coverage of the military olympics... and the ultimate event is '*Ground Defence*'. Gladiators man deadly craft, their mission to protect the communication tracks and ground installations. Their goal - and yours - is to be knighted *'Defender of the Ground'*.

ThunderStrike is 3D arcade action, using solid polyhedrons and solid relief techniques to create a breathtaking contoured landscape. With super-smooth 3D scrolling the gladiator's craft hunts and attacks the enemy vessels in deadly low-flying combat. The action is tracked by a camera following close on the tail of the player's craft, whether flying along a trench or hugging the undulating contours of the ground.

- Spectacular graphics - fully light-source shaded solid 3D vectors (in 256 colours on VGA)
- Choose to pilot a variety of sleek Defender class fighters
- Heads-up display featuring radar displays and weapon indicators
- Various weapon pick-ups, shield drones and turbo-thrusters
- Watch the TV ratings go up as the action gets hotter!
- Available from the end of June 1990 for the Atari ST, Commodore Amiga (£24.99) and the IBM PC (EGA/VGA) (£29.99)

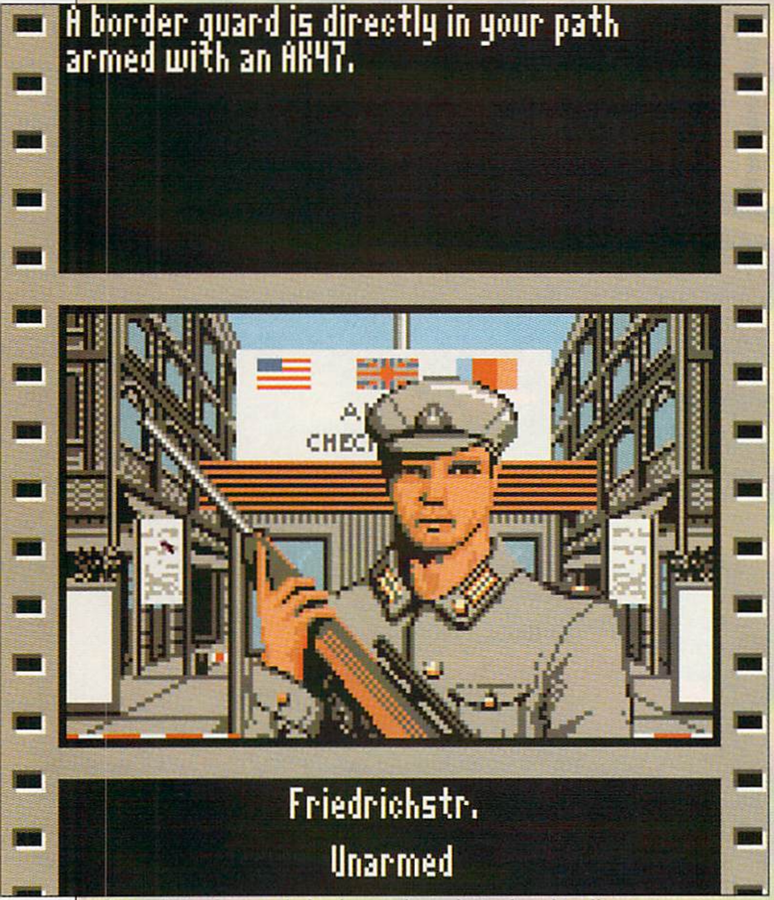
Light years ahead

MILLENNIUM

Millennium, Chancery House
107 St Pauls Road, London N1 2NA

THE THIRD COURIER

Two down, one to go...



So much for glasnost, the border guards are distinctly unfriendly

LAST November history was made when the East Germans destroyed part of the Berlin Wall which had separated the city since 1961. I only mention this because the wall (as in Berlin, not Pink Floyd) plays quite a part in this new game from Accolade. In their version it's still there.

The briefing is this: Three couriers were on route to a secret meeting in Brussels. Each had a vital component relating to NATO's non-nuclear defence plans. Two have been assassinated, one remains. He was last seen in West Berlin.

As a CIA agent you make selections as to your cover and past history. These directly effect the playing characteristics of your agent as he moves through the rather violent backstreets of the erstwhile German capital.

You are not completely on your own. A computer in your apartment building will keep you up to date on the latest developments. An answering machine will play silly messages to anyone who rings while you were out and a fax machine is always handy for relaying photos of suspects back to HQ for an identity check.

There is also a mission support centre in the middle of the city to provide you with weapons, money and useful items of equipment such as bomb-sniffers, bugs and lockpicks.

The streets tend to get a bit monotonous what with all the trudging up and down and what have you. Not every shop front has a shop behind it, though there are plenty of locations. Most of them are one of four things, an office block – which are very hard to get into – a hotel – ditto , a bar – difficult to get out of – or a shop which never seems to have anything you might want to buy.

The game is very realistic in that there is an awful lot of boring, humdrum legwork to be done before you uncover anything. The streets are slightly more dangerous than you might believe, with well armed muggers and drunks everywhere. Good job there's a doctor at mission support.

Money isn't much of a problem. You get a daily allowance of 1000 DM plus whatever you can get out of your cashpoint account. Some things are expensive, like a false set of East German papers, but the commodity you are most short of is time. You have only a few days

IMPOSSAMOLE

Molementary lapse of reason



Christopher Reeves did it better

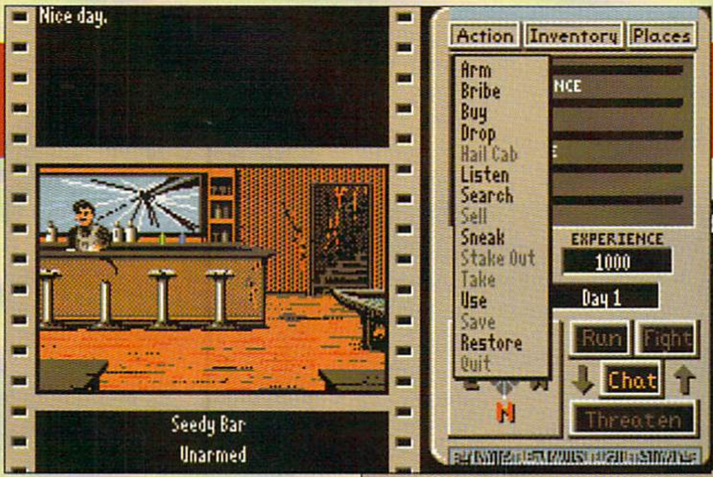
DEAR oh dear oh dear ... those Gremlin people must be going for the nostalgia market with Impossamole. Either that, or they've got themselves badly caught in a time warp, because Impossamole is one Old Time game.

Labouring under the misapprehension that people ever liked Monty Mole to start with, Gremlin dug the little creature up again. Happily basking on a sun-drenched shore, The Mole with the Least is suddenly beamed aboard a passing spaceship, to be confronted by two alien beings.

Instead of using the correct greeting for the situation (viz. "Eat Plutonium Death, you disgusting Alien Weirdos !") he is coerced into helping the beings recover some lost scrolls (sacred) from the Five Guardians. He is given special powers, and sent back to the Five Lands where the Five Grauniads live.

Incidentally, none of this actually happens. You never see the spaceship, or the beings; all you see is a cartoon (static) of a flying mole in tights and sneakers. The one concession to progress (after all, any machine could do the picture) is a technically competent House track. And yes, it does have the irritating piano break that all House tracks have.

To give the game even more nostalgia (or better, déjà vu, or better still, unoriginality) Monty must defeat each Guardian at the end of each level to gain a scroll, but the last Guardian can only be beaten





The reassuring sight of a heavily armed NATO officer – at least you won't get mugged

before the info will inevitably fall into the hands of the Russians.

Another completely menu-driven adventure, the front end feels a bit constricting at times but plays OK. The sense of paranoia in the old city is wonderful. Good luck. Oh, and watch your back...

Lucinda Orr

The Third Courier
£24.99
Accolade

- Aura
- Graphics
- Gameplay
- Value

Overall – 74%



once all the other scrolls have been recovered. And the thing is, Impossamole, like all the Monty Mole games before it, is a twee little platform game.

A well written platform game can be a thing of beauty and a joy forever. It should have pixel-perfect positioning, keyboard controls (for the ultimate accuracy), high contrast between the player and the background, three (or five) lives, and the bits that are nasty to stand on should be immediately recognisable as such.

That's the trouble with these new machines. The sprites have so many frames that you can't tell the difference between a super mega hyper Big Leggy jump, and an adequate mega hyper Big Leggy jump (something to do with Hayzee Fantayzee?).

There are so many colours that graphics people put nice smooth edges around sprites so you can't tell when there's a collision. Bah - bring back monochrome sprites and dot- crawl, I say.

Each of the worlds has a theme; one is a mine, another is the Orient (keep those Origami ducks off of me !), yet another is the jungle (would you credit it, a 'nana-lobbing Gorilla ?) and the last one is Arctic-ish.

There is a fifth, but it is reserved for people who have completed the other four. As you only have energy, rather than good old fashioned 'lives', you have to be some mean ubermensch to manage it. Either that, or very desperate.

Remember the cute little "Please Wait... " that you used to get with all games ? Well, Gremlin have given you the wait while levels load in, but haven't given you the message.

What they have done is given you a loader which punishes the drive into eldritch gritchings, and does funny things with the serial port, and gives you nothing but blackness to look at in between levels. C'mon, people, what ever happened to the art of the loading screen ?

What I find particularly amusing in this game is that one of Monty Mole's "power-ups" is a can of worms. Sums up the game quite nicely, I think.

Stewart C. Russell

Impossamole
£19.99
Gremlin

- Strategy
- Graphics
- Gameplay
- Value

Overall – 37%

WIPE OUT

Cleans right through to the shine

OLD computer games never die. They just fade away into obscurity for a few years and then come back bigger, better and faster when you least expect them. If there are only six plots for "Whodunit?" novels, then there are even less for computer games.

Take this offering from the man with the big nose, Mr Gonzo. The object is to fly your hoverboard around a track, leaving a trail for your opponent to crash into. Sounds familiar? You remember Tron don't you?

Of course you do - it was that Walt Disney film about a bloke trapped inside a computer who spent his time playing with baddies on light cycles. It has been calculated that the film generated more computer games based on the "surround your enemy" principle than the number of people who saw it at the cinema.

A smash hit written in Basic for every micro ever made, it's been a while, but now it's back. And this time it's in code with simultaneous split-screen, two player, three dimensional graphics.



The user-friendly front end. Apparently

Racing your hoverboard requires all the old tactical skills - designing bottlenecks, forcing loops and packing as much wall into as small a space as possible. If your timing is good you can attempt to jump a wall, but don't get too cocky, for it's not easy. One tiny error of judgement and you're history.



The aftermath of a game – Aj hits a wall at 60 clicks a second

There is plenty to do in the background while waiting for the next competition. You can upgrade your hoverboard by adding brakes (you big pansy) and better engines with turbo boosters and go-faster stripes. Or you can bet on and watch the outcome of other races, thereby earning yourself more cash.

Then when you're really getting the hang of things, you can move to a new planet and challenge the racers there. If you do well, you can skip to a new solar system. And if you do *really* well, you may be called upon to take part in the All Time Greats Inter-galactic tournament. Your prize? I dunno, I didn't get that far. But if the entire universe of individual aliens is taking part, I suspect it's something pretty special. At least as good as a Blankety-Blank chequebook and pen.

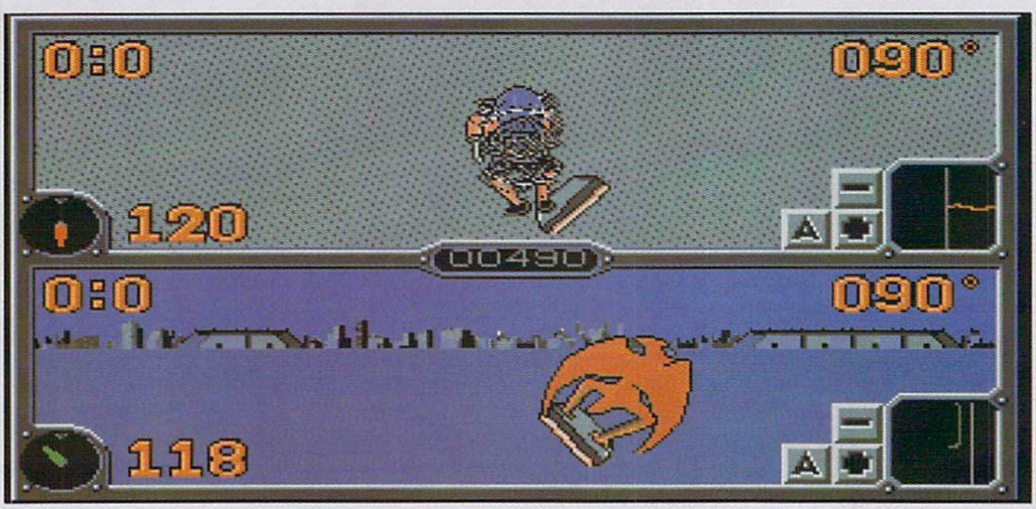
When it comes down to the technicalities of the game, the graphics might be a bit naive. The sounds might even be a bit simplistic. Does this worry me? Naw, not a lot. And the reason for is that the game is fun. F,U,N, fun. The two player version is terrific. Look upon the single player version as a way of practising until your mate agrees to play again.

Of course, no gameplay is perfect. Wipe Out has several flaws, the most major of which is a completely incomprehensible front-end. Lots of little meaningless icons lead to numerous incomprehensible screens. You end up frantically clicking here and there on the little metallic grey shapes until the game gets around to starting.

By making the program a touch more user friendly, the considerable manual could have been halved in size.

But when I'm heading at breakneck speed towards an energy wall with an alien on a Scorched Earth special board intent on sliming me, the only thought in my head is whether or not I can pull off a high speed banked turn and still survive...

John Kennedy



A typical race – player one (me) gets creamed by player two (the birdman of Epsilon minor

AMIGA COMPUTING Value

Wipe Out
£19.99
Gonzo Games

Sound
Graphics
Gameplay
Value

Overall – 81%

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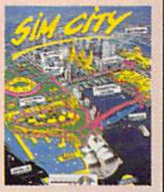
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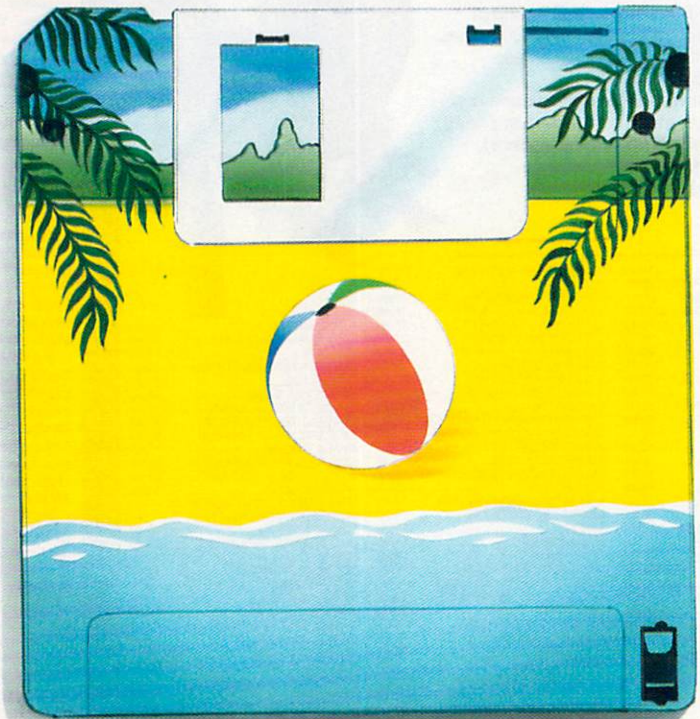
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TOWER OF BABEL

The land of confusion

Tower of Babel
£24.95
Rainbird

Sound
Graphics
Gameplay
Value

Overall – 77%

ONCE upon an eon the descendants of Noah decided to build a tower. This was to be a tower to reach so high that they could communicate with their creator.

Well they didn't quite manage that but they did attract the attention of some passing aliens who took pity on the poor humans and gave them three robots to help finish the job.

Now the time has come for the robots to phone home, but they can only do this from the top of the tower. The jealous humans have laid traps to prevent the robotic "spiders" reaching their objective.

The spiders each have different abilities. The first is the Zapper which can, naturally enough, zap things. This is useful for clearing the way of weapons systems and the occasional zapable obstruction.

Next in the team is the Pusher. His powers of repulsion (sounds like Jeff) can push most obstacles out of the way, including the other robots.

Lastly comes the grabber, whose sole aim is to pick up things, mostly Klondikes – the energy pods that the robots need to survive.

The three spiders must work as a team to overcome all the problems and puzzles the treacherous humans have set before them. Other robots in the service of the humans inhabit and inhibit the tower.

Laser cannons and repulsion rays, proximity mines, reflectors, wipers and exchangers are just some of the hostile hardware to be overcome on the quest for the summit.



Programming the front end to avoid the Zapper



I wonder if he'll be friends with me

Control of the spiders is straightforward. Click on the relevant icon to move forwards, left or right. The fire icon will activate the current spider's weapon. Gadgets down the right hand side allow switching between spiders.

Up to eight orders can be programmed in advance and then executed, even if a different spider is in use at the time. In fact all three spiders can run programs simultaneously, eliminating all that hassle of switching between them.

The graphics are nothing stunning, being just you're average 3D surreal cubist landscape stuff, although some of the lighting effects were very nice. It's not a fast action arcade style thing so there isn't much scope for wonderful effects.

Puzzlewise it is quite exceptional. Perhaps akin to the kind of constructional nightmare presented by building a ship-in-a-bottle in space by remote control.

A complete tower construction set is included so when you get bored torturing your hamsters or whatever you can turn your talents to creating a replica of Dante's Inferno for your mates to battle their way through.

Definitely one for those who consider themselves cunning.

Green

Believe it or not, he's on your side



CLOUD KINGDOMS

On a trip to Cirrus Minor

IT ISN'T easy being green. We're not talking about buying "No Phosphate" washing powders which have never actually contained phosphates anyway. No, we're talking physically green – you know, sort of easy to lose on a football pitch kind of a colour.

It wasn't the problem of galloping verdancy that was uppermost in Terry the Green's mind. The evil Baron von Bonsai (Boo Hiss ad nauseum) had stolen Terry's magic crystals and was using them to corrupt the Happy Cloud Fairies. Quite how the Baron was planning to use them was anybody's guess, but it probably involved hanging around street corners with a radio-pager and an Uzi.

"Drat ! Those Magic Crystals were for my own personal use !" thought Terry to himself. Without further ado (whatever that may be) he shot off to the Cloud Kingdoms.

On arrival, a sorry sight met his eyes. The Happy Cloud Fairies had mutated into Bad Insect Monsters and Giant Rolling Blackballs. "Those crystals must have been a bad batch. Just as well I didn't use them ", thought Terry.

At this point it may be a good idea to explain that, although Terry is a small green bouncy ball, he does a nice line in looking unshaven and disreputable. For a good example of looking unshaven and disreputable, see the *Amiga Computing* editorial team. I won't spoil it by telling you which is which, though.

There are four maze-like kingdoms which Terry can clean up for starters. Two of them seem to be somewhat difficult. The Unseen Kingdom has an invisible maze, so you don't know where you are going, or even where you *should* be going. The Arrow Kingdom is covered with arrow tiles, which accelerate you off the edge of the Kingdom.

The best one to start on is the Cloud Kingdom. You have a time limit to collect all your Magic Crystals, and there are a whole load of patrolling enemies to get past. You will have to paint in some of the floor using the Magic Paint Pots to get all the crystals.

You'll also make some interesting discoveries about the floor - some bits disappear as soon as you roll over it. Do I need to tell you that you instantly plummet through the holes that you make ? I think not.

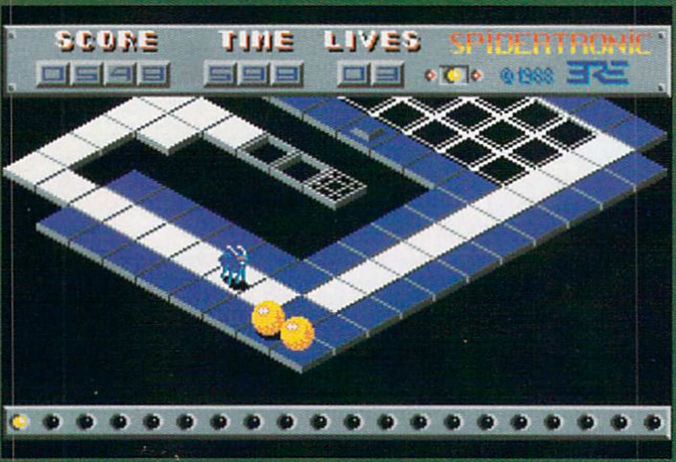
The Quartet Kingdom is much more difficult. Not merely do you



Some sort of bridge seems to be in order

SPIDERTRONIC

Affordable arachnoid antics



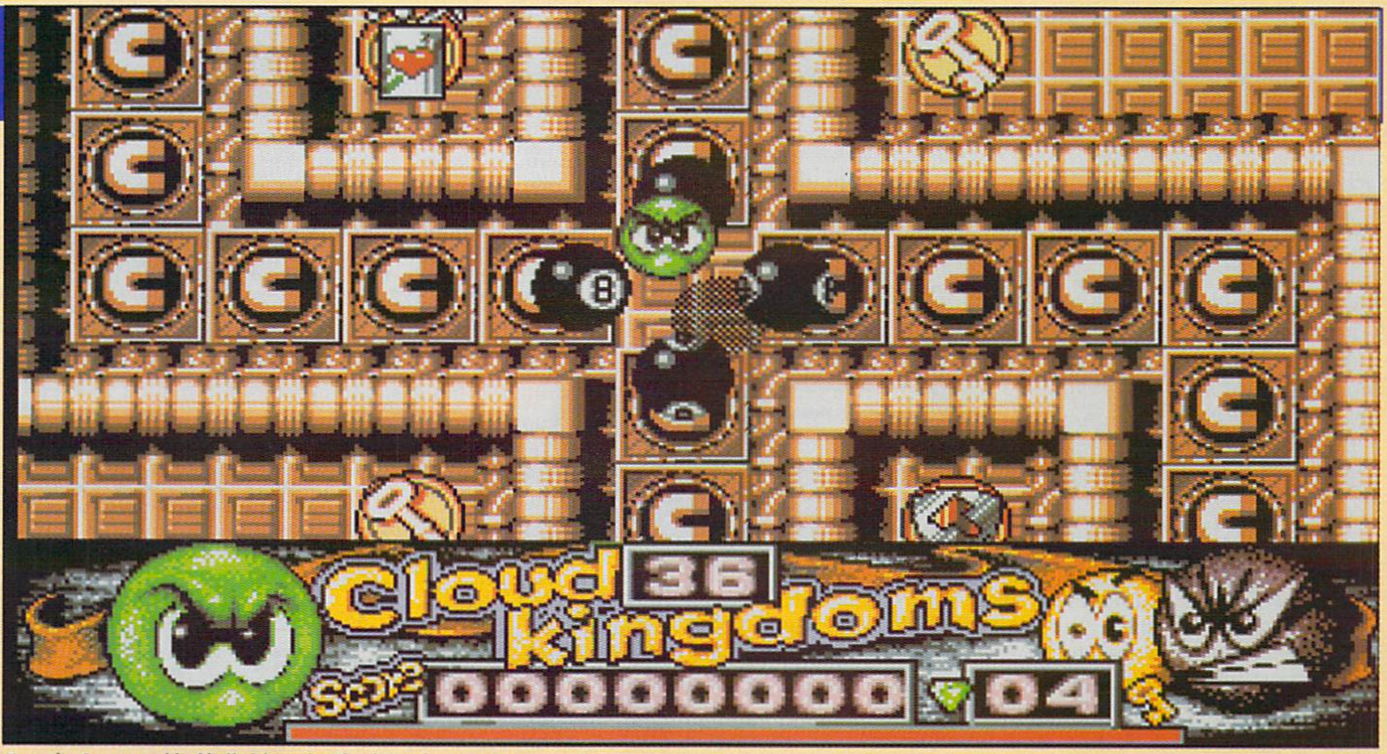
A spider is approached by two large orange balls...

RECENTLY I discovered a huge, and here I mean really big in a large sort of way, spider living in my garage. Behind the cardboard box if you're interested. Ordinarily this wouldn't particularly bother me but the very next day I received a copy of Spidertronic from Interceptor. Coincidence? You get a bit paranoid in this business.

Anyway, The game more or less follows the plot of Clown'O'Mania which we reviewed a while back. Run around an Englebert style landscape picking up coloured squares and laying a path to the transporter. The transporter will take you to the next level, of which there are ten.

When you complete the tenth level you have one of two choices – either give up and go and do some-

AMIGA COMPUTING Value



Terry the Green gets blackballed from the Cloud Kingdom steering committee

have contend with disappearing floors and patrolling enemies, but you also have a floor littered with magnets. These stick you down and prevent you from jumping over the nasties. A similar effect can be had in real life by eating an entire suet pud.

Cloud Kingdoms reminds me of both Skweek and Incredible Shrinking Sphere, but isn't exactly like either. The graphics are pretty terrible – not so much YASTP, more YAC64P - which is exactly what it is. On first seeing this game,I really loathed it, but after playing around with it for a while I've discovered it's fun.

It's still inexcusable that two out of the four starter Kingdoms are virtually impossible. Likewise instant death by falling through the floor. Well, not death - you don't lose any time, but you get put back to the start of the Kingdom.

Cloud Kingdoms is a real C64 game; solid and difficult gameplay, average graphics and passable sound. But what I do find strange is that in attempt to stop hacking, the game hangs on reset. Only a powerdown will restore the machine - why not just disable the reset ?

Cloud Kingdoms is quite neat, actually. Uncomplicated frustration and lots of levels will keep you occupied.

Stewart C. Russell

Cloud Kingdoms
£24.99
Millennium

Sound	
Graphics	
Gameplay	
Value	

Overall – 78%

thing else or make up your own levels with the editor.

Graphics are nothing too special. The spider is only just discernible as such, but the giant balls that hamper progress are quite nicely done. Sound is adequate.

Spidertronic is out on the Smash 16 budget label which means it retails at £4.99. Up until now I have not been a great supporter of budget games because they seemed to be an excuse for software houses to peddle off dross for a profit without fear of complaint.

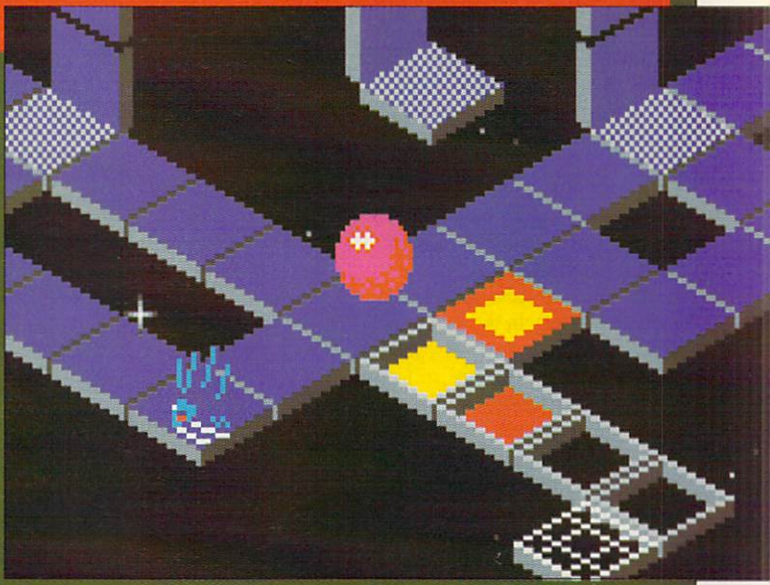
Spidertronic hardly shines, but it could certainly take on some of the full-priced games that have been through these offices.

Green

Spidertronic
£4.99
Interceptor Group

Strategy	
Graphics	
Gameplay	
Value	

Overall – 70%



GRAVITY

He ain't heavy...

GRAVITY has a lot to answer for you know. Every time I get on the bathroom scales they scream for mercy, but if there was, say, half Earth gravity my weight would be quite acceptable.

You can't go too far and wish for no gravity though. For one thing the Earth's atmosphere would take a hike, and for another your cereals wouldn't stay in the bowl at breakfast time.

So gravity, in some form or another, is a good thing. Now then, what do you know about Newton's Law of Gravitation and Einstein's General Theory of Relativity?

If you're the smarmy pseudo intellectual type who bought Stephen Hawking's book because you thought you were doing your bit for the disabled and anyway it was all rather cosmic, you probably know nothing at all.

However, if you did read the book – and it was heavy going in places – then you undoubtedly know what I'm talking about. If so, skip the next few paragraphs.

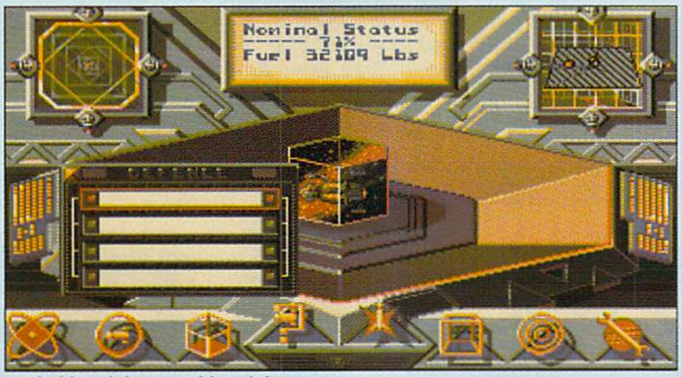
So what the hell are you on about Duncan? I hear you asking. Well obviously I don't actually hear you asking, unless you happen to be reading this review aloud one day in WH Smiths and I'm stood next to you. However, it serves as a lead into a short lecture on the subject in hand.

The Space Time Continuum is what it's all about. This is a four dimensional (your usual three, plus time) model of, well, the universe and everything. Planets and suns are like heavy balls on the rubber sheet of spacetime. Naturally, they sink into the rubber a bit, causing gravity wells.

Anything reaching the edge of the well is bound to be attracted because of gravity. And it's downhill as well. Heavy suns, your white dwarfs and red giants have large gravity wells, but heaviest of all are black holes.

These are collapsed suns, infinitely heavy in the centre. They naturally have great big gravity wells. In fact, they are so heavy that scientists postulate that your metaphorical ball on the rubber sheet distorts space so that it actually reaches somewhere else in the spacetime continuum.

This hole leading elsewhere is known as a singularity, and perhaps, just perhaps, one day we might have the technology to ride down the singularity and come out at the other end. Alive and not terminally squashed.



Looks like a fish, moves like a fish...

Gravity
£24.99
Mirrorsoft

Sound	████████░░░
Graphics	████████░░░
Gameplay	████░░░░░░░
Value	█████░░░░░░

Overall – 61%

Which leads me to the game Gravity, which uses a very attractive display of the spacetime continuum, complete with suns and planets and black holes and gravity wells.

If you want to jump from one end of space to another, down the gravity well of the black hole you go. This is the future. A future where man is colonising the stars and terraforming the planets.

This is also where the Outies come in. Horrible alien life forms that they are, they have decided to eradicate us before our own team of xenophobes eliminates them.

We do this to each other by blasting apart our ships with a variety of weapons, and by turning the opposing team's sun into a black hole or a black hole into a sun.

The Outies get their Ready Brek from heavy radiation from black holes, so if they turn the sun where your home base is into a black hole, you're scuppered. Equally, if you manage to turn their black hole back into a sun they are kebabbed.



To aid in this quest of galactic genocide, you have a fleet of 15 ships, which can be ordered around to investigate, explore, fight aliens and colonise worlds.

If the ship you are on is blasted to bits, you automatically transfer to another one.

Thus this is a very tactical game rather than a romp around the galaxy killing things.

Think first, then go and nuke 'em.

To aid in the process you have drone ships, which can be programmed by an icon-driven language. It isn't too hard to get the hang of but when you start off it can be confusing.

This applies to the game in general, thanks to a manual which describes all the systems – defence, weapons, orders, the dreadful 3D map in the Holotank, tools for terraforming and colonising planets – but nothing about how you actually do these things.

And when something doesn't appear on a menu when the manual says it is on that menu, you start to wonder what the hell is going on.

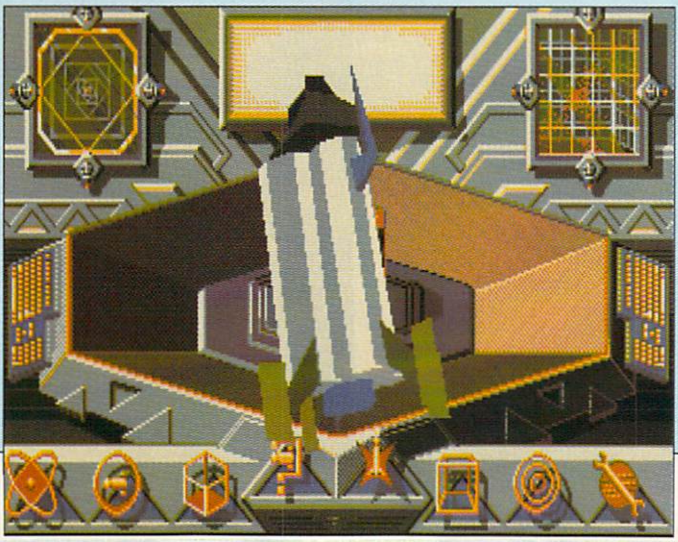
Hours of frustration mark the beginning of the game. A quick tip if you're looking for a singularity to go down is to follow the dark blue line on the long range scanner; the brown ones lead to suns and planets.

Once you get into the game, though, you'll admire the rolling spacetime graphics, tense every time an alien starts blasting away, and stare in horror when you lose the game and look upon a picture of someone's head melting.

But you'll also be irritated by the fiddly control, unimpressed by the way the control panels jerkily scroll on to the screen, and eventually, eventually, play the game long enough to realise that Gravity is a tactical wargame with flash graphics and all action combat scenes.

But to be honest, it is not that interesting. Gravity ain't heavy at all.

Duncan Evans



In association with Shoot!
Free superb full colour Wallchart follows all the Fixtures through to the Final



WORLD CUP YEAR 90 Compilation

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KICK OFF

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Featuring:- Pixel Perfect passing
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Superb tacticle play

"Has to be the best football simulation yet" ST USER

"Most playable soccer simulation in binary history" C & VG 88%

"Boots the other football simulations over the cross-bar" Zzap 96%

"Simply the best football sim" New Computer Express

INTERNATIONAL SOCCER

- Superb Hi-Res graphics, plus team colours, wind, weather and night play options.
- Highly competitive play
- One or two players
- Up to 4 players can play using a 4 player adaptor
- Animated supporters, electronic scoreboard and on-screen refereeing keep gameplay fast and furious.

Without doubt the best of the soccer action games" Amiga User International 88%

Gary Lineker's Hot Shot replaces International Soccer on Commodore 64, Spectrum and Amstrad

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You decide the play and enjoy the victories and suffer the defeats...

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Offside trap, sweeper system or possession football
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- Crunching tackles, fouls, penalties, bookings and sendings off
- 54 computer managed squads from around the world all with individual tactics

"The best ever football managerial game ever, in the history of the World" C & VG 9/10

The ultimate management game" Ace Rated 929

"Easily the best of its type" Zzap 64 89%

"The best ever managerial game" Sinclair User Classic 93%







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AMSTRAD CPC (CASSETTE + DISK)
SPECTRUM (CASSETTE + DISK)

EMPIRE

4 The Stannetts, Laindon North Trade Centre, Basildon, Essex, SS15 6DJ Tel. No. (0268) 541126

GREG NORMAN'S ULTIMATE

A good walk spoiled

WHEN I first saw this program, I thought thank god for that, it's not another of those dreary Jack Nicklaus games. Then again, after Jack anything would be a relief. Harold Mickelthwaites Guide to Getting on the Green Before Twilight even begins to sound interesting.

When you actually get Greg Norman's Ultimate Golf (my doesn't that sound much more exciting) you even find the energy to take the disc out of the box. And speaking of the box, Gremlin has even pasted the words, Shark Attack on the side. For a minute I thought that this was another version of Jaws. Very confusing I must say.

Anyway, on with the game and the first problem, the copy protection. Identify the hole from those shown in the manual it says. Easy, except the pictures in the manual have been taken in black and white and the shades of green are indistinguishable. Whichever idiot at Gremlin thought this one up should be shot.

To the clubhouse then, and a decision to make over the number of partners. I could make a smutty remark here, but they'd only cut it out so I won't bother *Right on, Good Taste Dept).*

One to four players, human or computer controlled. Before you progress further remember to switch the caddy function off. The caddy can take up to three minutes to pick a club that you'll be offered if you disable the feature anyway.

And you don't get a caddy looking like Nick Faldo's anyway, so you're not missing anything.

Out to the first hole and the scenery undulates into the distance. This is better than the flat plains of Leaderboard, but then the graphics are quite crude and look like they were developed with the PC and Spectrum in mind.

You are automatically lined up to hit at a hole, which is a shame if the hole is a dog leg with trees. Altering position involves going to a drop down menu and calling up a map display. That works, but is not how I'd like to alter my stance and position.

On the map screen you can also zoom into the course, though as it will do you no good whatsoever, you'd simply be experiencing another of Ultimate Golf's useless features.



Decide how to address the ball – 1st class or airmail

So you whack the ball using power and hook/slice on a very Leaderboard style meter – which is why it is the feature of the game which works most satisfactorily – and the ball sails into the distance, not growing perceptible smaller until it vanishes.

If you hear a sound effect you can guess that it's in a bunker, hit a tree or in the water. If not you have no way of telling where the ball has gone until you get up there.

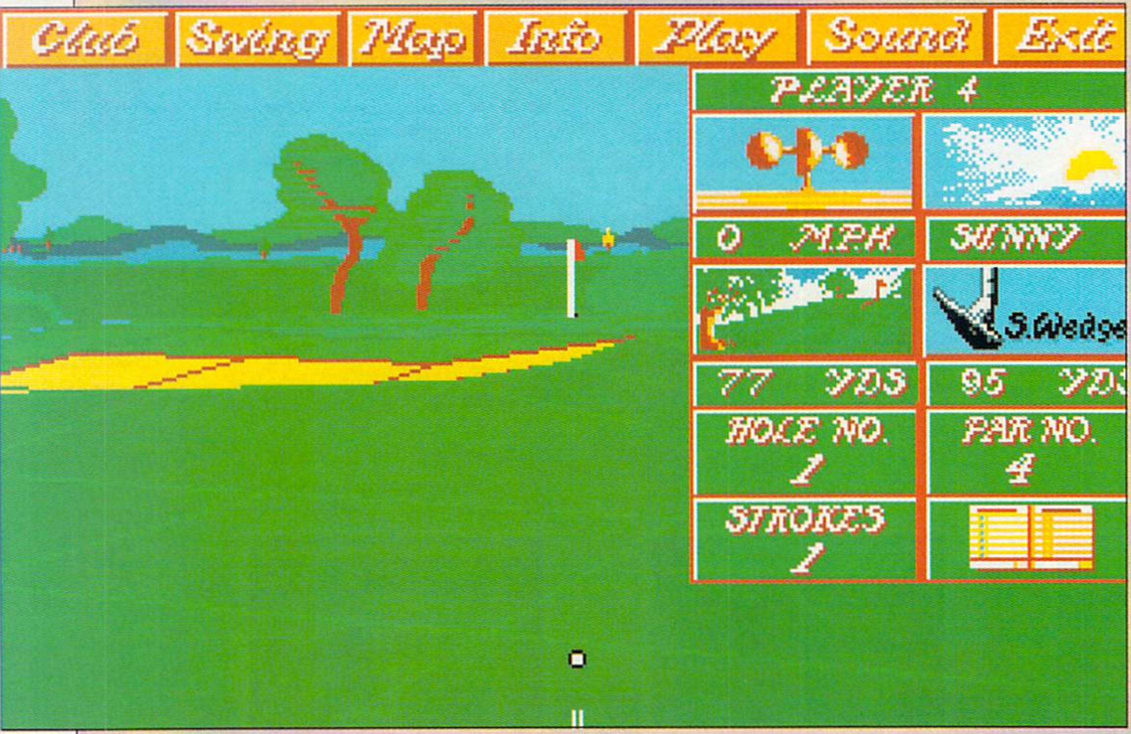
Wind is a feature to monitor constantly, but rather irritatingly the anemometer is on yet another screen, as is the type of lie the ball has. When approaching nasty looking holes (behind a tree and over water), the poor computer players don't half dither. I mean I am one of the worst golfers in the country, but at least I know where I'd like the ball to go.

Which reminds me, the score cards have the provision for solitary players to try and reduce their handicap. When the computer asked for my handicap I typed in "My arms".

Where was I ? Oh yes, assuming you get to the green, which is by no means certain given the vagaries of computer arbitration, and the dismal putting section comes up.

The green is virtually always flat, except for the one occasion when you need to sink a put to win. Then you find yourself on the side of a hill.

The only thing you have to worry about is strength of shot, and what the weather conditions are. Even so, it is possible to com-



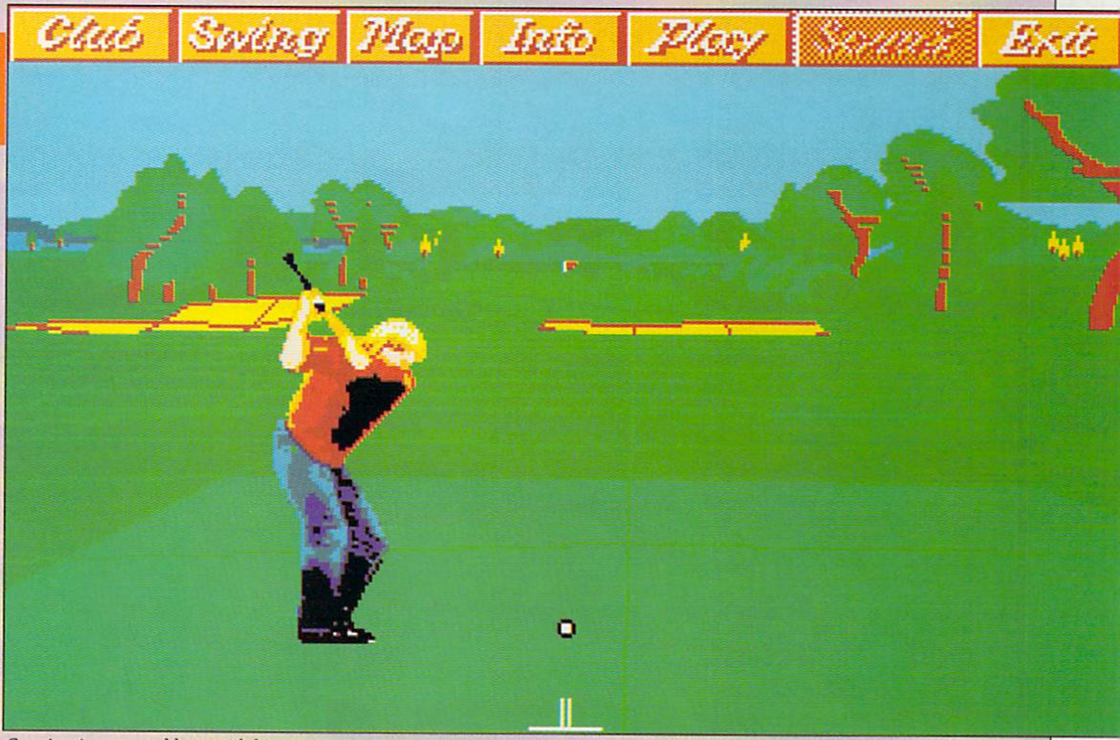
What a lovely day – pity you're stuck in the golfers version of Gridrunner

GOLF

Ultimate Golf
£24.99
Gremlin

Graphics
Sonics
Playability
Value

Overall – 64%



Greg ironing out problems with his swing

pletely misjudge a shot because the computer is feeling mean.

When you give a three foot put 10 per cent power (a 55 feet putter x 10 per cent = 5.5 feet supposedly) don't be surprised when you don't even make contact with the ball. The putting is a total joke, and someone at Gremlin has completely screwed it up.

Before you know it, if you're playing with three computer players, you'll have finished a round and be ready for the 19th hole, only to find that it's now 3 a.m.

Ultimate Golf isn't bad, but it has serious flaws and certainly isn't worth buying if you're going to play on your own. Get a few friends round though, get them sufficiently inebriated, and you'll find it a reasonable change from Leaderboard.

Oh, and Ed (whoever it is this week), if anyone writes in to explain shark attack please send them a copy of the Beano from me.

Duncan Evans

SIM CITY TERRAIN EDITOR

Their life on your land

Sim City Terrain Editor
£14.99
Infogrames

Features
Ease of use
Usefulness
Value

Overall – 60%

ONE of the most notable games these last few months was the excellent Sim City, acclaimed as the concentrating jolly hard man's Populous, where mere mortals got to be mayor of a megacity.

However, the game had one slight complaint levelled against it. It was impossible to create the actual starting terrain, all the landscape was terraformed randomly.

Now even this little niggle has been rectified with this wonderful editing package. Fill and draw options allow you to place land, sea, trees and even plot the route of passing ships. A smoothing function will get rid of all those nasty rough edges.

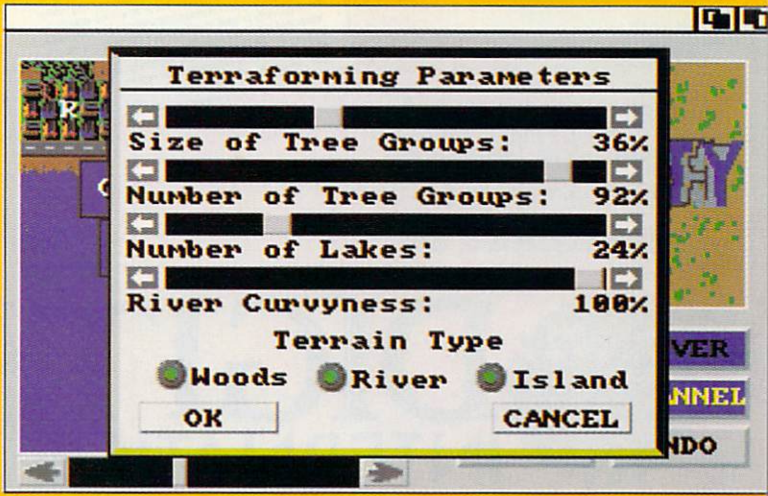
Even if you do want just a random landscape various sliders can be set to bias towards leafy, wet or barren lands – even down to the curviness of the rivers. A few sample cities are included to help guide you on your way.

An excellent companion to an excellent game, but not really worth it for the money.

Green



Design impressive looking island chains with the powerful editor



Nature tamed by the terraforming control panel



Jeff Walker presents...

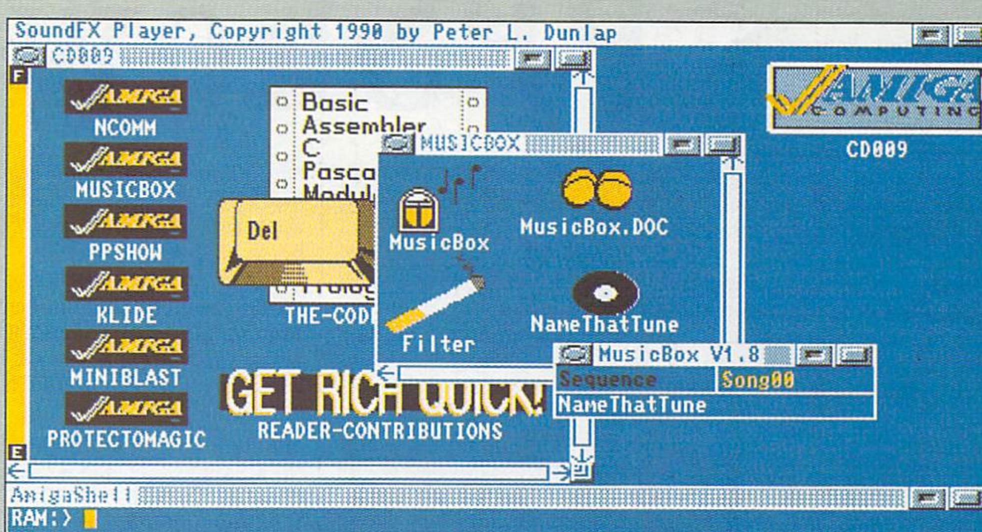
THE DISK



MUSIC while you work. Love it. If my memory serves me correctly, this is the fifth tune I've passed to you. So we're half way to an album.

Time for another quick competition, methinks. Name that tune. Same rules as last time. Drop me a line and if you can convince me you know what you're talking about I'll send you my full MusicBox collection, which is currently standing at three disks.

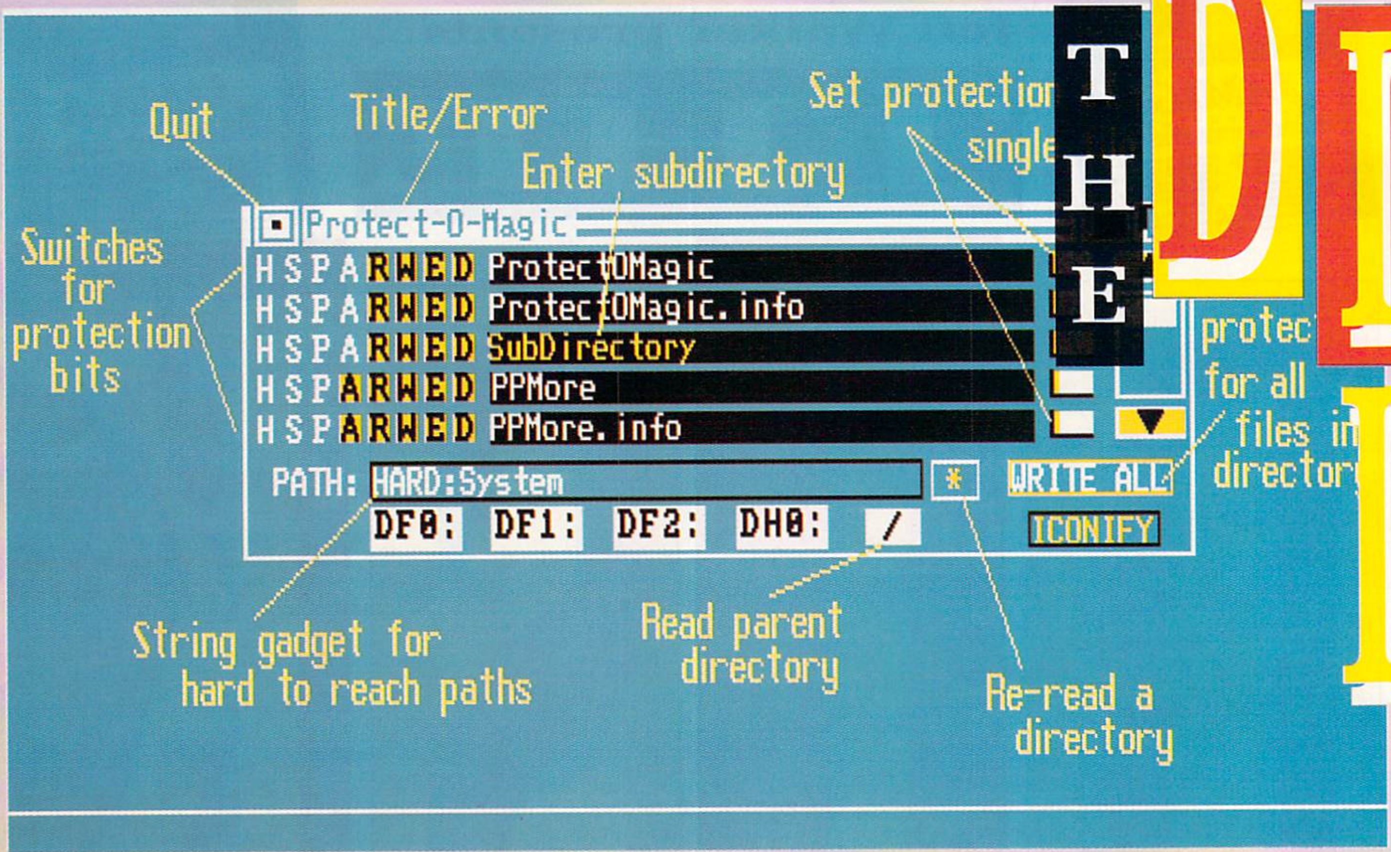
Send your letters, grovels and bribes to: *I'll Name That Tune, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.*



The tune has been crunched with PowerPacker so be prepared for a few seconds of inactivity before it starts playing

MUSICBOX is freeware but remains copyright ©1989-90 Peter L. Dunlap. This program is distributed courtesy of CMOS BBS (0101-303-322-4078).

MusicBox



THE DI

Protect-O-Magic gadget descriptions

PROTECT-O-MAGIC is a utility program for setting the protection bits of files from Workbench. The best way to learn to use Protect-O-Magic is to examine the image file ShowMe. However, this is not necessary. You could just run Protect-O-Magic and see nearly the same picture. To see the ShowMe file, double click its icon.

Looking at the picture, you will see on the left side of the window five lines of HSPARWED. These gadgets represent the protection flags – Hidden, Script, Pure, Archived, Readable, Writable, Executable, Deletable. If they are orange, the flag is set. Click on the letter to change the flag.

To the right of the flags are the filenames. Directories will appear orange here. Click on the name to enter the subdirectory.

On the right of that are what the

PPShow

PPSHOW was written to complement one of Nico Frangois' other utilities, PowerPacker, a command and data cruncher (October 1989 cover disk). It is used to show normal IFF ILBM files or ILBM files crunched with PowerPacker. The decrunching is done automatically so you don't have to know if a file is crunched or not.

PPShow can be used in three different ways. First of all via the CLI: If you enter PPShow without arguments you will get a usage template. You use PPShow like this:

```
PPShow []
```

The program will then load the ILBM file and display it. If the file was crunched using PowerPacker 2.0 or higher, PPShow will first decrunch it for you. If the file was encrypted you will be prompted for the password.

There is only one option in this version of PPShow, -h, which is used to force HAM mode when no CAMG chunk is found. If you don't specify this option, PPShow will assume a 6 bitplane screen is Extra HalfBrite.

Note that it is wrong for an Amiga IFF ILBM file not to have a CAMG chunk, especially when there can be doubt about what display mode to choose.

There are three different ways of using PPShow via the Workbench: You can set the default tool of the crunched or non-crunched ILBM file to PPShow; you can single click the PPShow icon, hold down Shift and then double click the picture icon; or you can double click the PPShow icon and enter the filename in the string gadget you will be presented with.

You set the default tool by single clicking the icon of the picture and selecting Info from the Workbench menu (this will only work if info.library is present in the Libs: directory).

You will get a window with several gadgets in it. Click in the string gadget where it says Default Tool and enter *:ppshow*. The program should be in the root directory of your disk for this to work. If it's in the System directory, for example, you should enter *:system/ppshow*.

Last of all select the Save gadget.

Note that PPShow will add the extension .pp to the filename when the file is not found. This is very useful in the Workbench environment. You can make an icon for house.pic, for instance, but name the file house.pic.pp so you know that it has been crunched by PowerPacker.

Now the Workbench will show an icon with house.pic as name, but if you double click it, house.pic.pp will be displayed, so long as there is no house.pic file in the directory.

Abort PPShow by pressing any key (except the Tab or P keys) or the right mouse button. The screen

Get more crunch

MANY IFF ILBM files are already crunched with the standard ByteRun1 compression. PowerPacker will crunch these files even further most of the time but will not crunch them as well as uncrunched ILBM files. So save IFF files uncrunched (with Pixmate, for example) before crunching them. This will lead to the best crunching results.

Clock this!

HEY guys, I'm getting snowed under with clocks. Why do you keep sending me clocks? I know the one on the Extras disk lacks a few features, but who uses it anyway?

Look, I'll tell you what – if you can write me a clock which is as pretty as the Extras one, but with a better alarm system, command line parameters to set the features, plus a user-interface whereby you can change the time displayed on the analog clock face by dragging the hands with the mouse pointer, then I'll take a bit more interest. OK?

Protect-O-Magic

author, Nick Fiorello, calls the do-it buttons. When these are hit the protection flags of the file to the left of it are changed, if necessary, to match those on the HSPARWED display.

On the right of the do-it buttons are gadgets for scrolling through the list of file names.

Along the bottom are the gadgets which change the current path that Protect-O-Magic is examining. Most are self-explanatory. An exception is the * gadget, which will re-read the current path.

Protect-O-Magic remembers any changes made to the protection flags, even of those files scrolled off the screen. The / gadget will go to the parent directory, if one exists.

To the right of the path gadgets are the last two gadgets. Write All changes the protection flags on all files in the directory, if necessary, to match those of the buffer. Iconify will iconify the program to the upper left corner of the Workbench screen.

Protect-O-Magic will remember where the icon is if you move it, and it will remember where the Protect-O-Magic window was when you iconified it, and put the window back there when you re-open it.

Iconifying Protect-O-Magic frees memory allocated to the directory listings and generally reduces memory use by about 10k. To get back into the program, double click the icon.

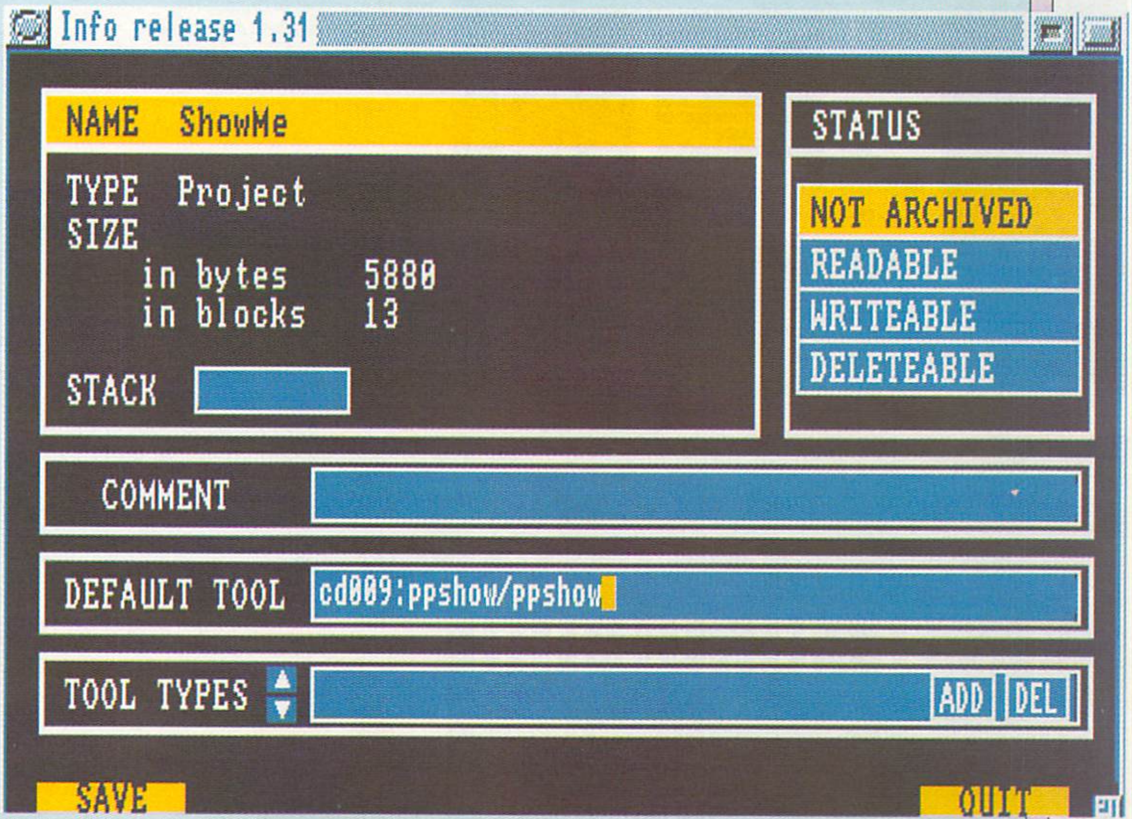
PROTECT-O-MAGIC is freeware. If you find any bugs in the program the author, Nick Fiorello, would like to know. Contact him at: *2142 Trieste Drive, Mims, FL 32754, USA.* Telephone 010-1-407-268-1666.

can be dragged by an invisible drag bar at the top. The pesky little mouse pointer will be removed while displaying.

PPShow offers full overscan support, PAL or NTSC. All Amiga display modes, such as HAM and EHB, are also supported, along with Deluxe Paint cycling. Press the Tab key to start it and to stop it. Up to eight cycles are supported, DPaint III currently only supports six.

PPShow has the ability to print the screen it is displaying. Press P and wait. The mouse pointer will be visible while printing. Please remember that printer.device and a correct system-configuration for your printer must be in the Devs: directory for PPShow to be able to print.

PPSHOW v1.0 is Copyright ©1989 Nico Frangois/PowerPeak. If you have suggestions or remarks, or if you find any bugs, please let Nico know. Write to the following address: *Nico Francois, Corbielaan 13, 3060 Bertem, Belgium.*



Setting a picture's default tool. Make sure you enter the correct path to PPShow

THE DI

NComm

JUDGING by the number of new Amiga bulletin boards springing up, and the activity on them, telecommunications is the fastest growing Amiga fad in the UK. As the speed of modems increases and their prices drop, more and more UK Amiga owners are waking up to the benefits the world of comms can bring them.

Public domain software on-tap 24 hours a day and technical help from other comms users who know what they are talking about are just two of the advantages of plugging a modem between your phone and your Amiga.

And it doesn't cost a fortune. Stick to a local bulletin board, call after 6pm or at weekends and you'll be spending just 50p an hour. Most times you can logon, do what it is you want to do and logoff in under 10 minutes. It's peak time, long distance and international calls that run up the phone bill.

Many UK and European Amiga boards are now networked together so that any message you put on the board gets "echoed" around all the other boards in the network. This means you can correspond over long distances, even internationally, all for the price of a local call.



Pressing Help brings up a status window. The scrollback buffer captures everything that scrolls past up to the memory limit you set

In the past, comms has been held back by the complexity of the subject. Jargon words like upload, download, baud rate, duplex and handshake are difficult to explain without bringing in yet more jargon.

The real limiting factor, however, has always been the software. Traditionally, comms terminals – the general term for a communications program – are bare bones pieces of software that leave the new user high and dry.

I remember one popular CP/M public domain comms terminal called Mex which involved having to learn a whole new command set. You ran the program and it presented you with a MEX> prompt. What now? Sigh. Out with the manual...

The Wimp environment of the Amiga means we can do away with all this nonsense. To get online (jargon for logging on to a bulletin board) all you need to know is the speed of your modem (its baud rate), the speed the bulletin board runs at and the phone number of the bulletin board.

In practice, after an initial very short and simple setting-up session, all you have to do is instruct the terminal to dial your chosen bulletin board. One mouse click and away you go.

Over the past year or so there have been only two contenders for the Best Shareware Comms Terminal title, Access! and JR-Comm.

Both are excellent, but while Access!, whose chief feature is its ease of use, appears to have ceased development at v1.42, JR-Comm is still very much being worked on. The last shareware release was v0.94a.

The author, Jack Radigan, is now putting the finishing touches to the first full release, v1.0, and it looks like being a most versatile and bug-free program. This full version, however, will only be released to registered JR-Comm users. In other words, it'll cost you $40.

But now there's another challenger, NComm, which will cost you, at the most, a box of biscuits – giftware, the Norwegian authors call it.

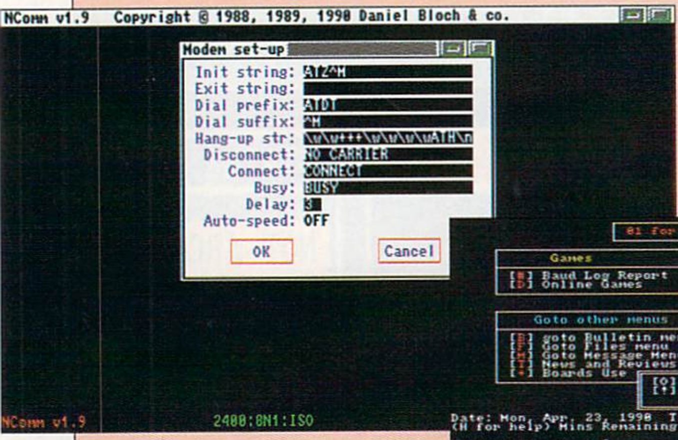
NComm has leapfrogged from nowhere to pole position. It's as easy to use as Access!, but if you want advanced features it's got those too. Top of the advanced features list is the script language.

A script is a program written in a Basic-like language that the terminal understands and interprets line by line. Scripts can be written to do anything and everything.

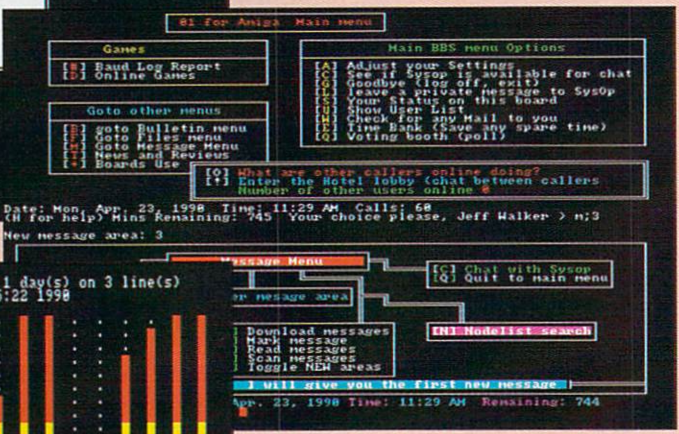
My favourite one logs on to MicroLink in the early hours of each morning, captures all my unread mail, saves it to my hard drive and logs off again. Me? I'm in bed upstairs fast asleep.

When I get up I go through my mail, type my replies into QED (a shareware text editor), save them each as a separate file, write a script program, which usually involves only some quick changes to the one I used the day before, and run it. Then I take the dog for a walk.

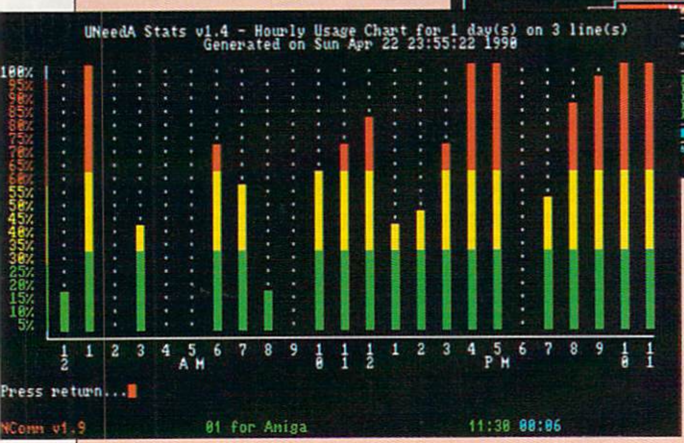
It takes a little practice to get



Setting up the modem is the trickiest part for users new to comms. The defaults will suit Hayes compatibles, which is what most modems are these days



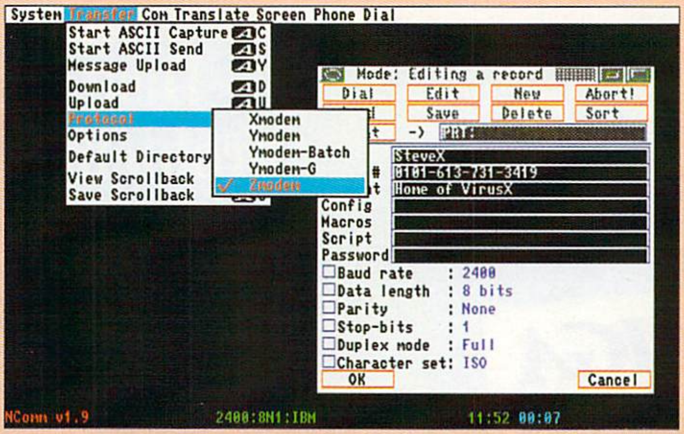
If you've got the memory to spare and a screen filter to reduce flicker, an interlaced screen is nice on some boards



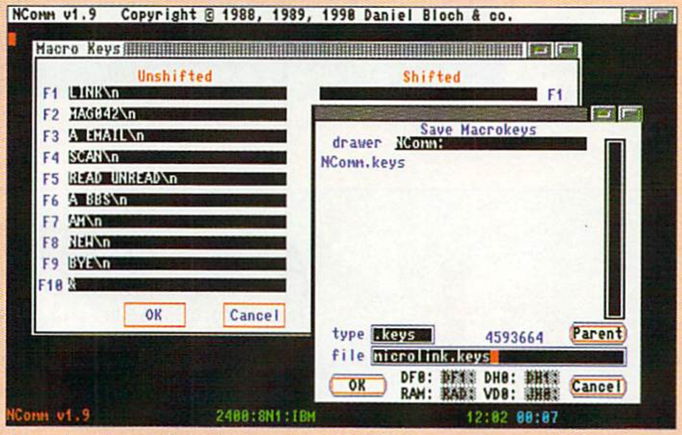
Boards that support IBM graphics can present graphical information in an easier to understand format

SK

NCOMM v1.9 was written by Daniel Bloch and is based on Comm v1.34 by Dj James. The program is freely distributable and is intended for personal use only. Sale of this program, except for reasonable media costs, is prohibited. Comments and bug reports to: *Daniel Bloch, Fyrstikkbakken 9, N-0667 Oslo 6, Norway.*



Make sure your favourite transfer protocol is set correctly before dialling the BBS



Macro keys are an alternative to scripts and help you to get around bulletin boards quickly

this confident with comms. The fancy technology usually frightens the hell out of new users, who worry unnecessarily about viruses being transmitted to them and their systems being got at by hackers while they sleep. These scare stories are absolute claptrap spread by people who don't know their RTS from their macro.

The quickest and best way to learn about comms is to log on to a local bulletin board – BBS in commspeak – and ask some questions. You'll be surprised how helpful and friendly everyone is.

Get to know your local sysop – jargon for system operator – the person who runs the board, usually at his own expense. He'll help you around the system and show you where all the help files are.

NComm v1.9 comes with very good manuals which print out to about 50 A4 pages. But it won't teach you about comms; only experience and an inquisitive mind can do that.

● *The authors of NComm have made every effort possible to ensure that the program will function as described, but no warranty of any kind, expressed or implied, is made by them or Interactive Publications Ltd.*

The authors of NComm and Interactive Publishing Ltd will not be liable for any direct or indirect damages to either machinal equipment or mental health arising from a failure of the program to operate in the manner desired by the user. In no event will the authors of NComm or Interactive Publishing Ltd be liable for any loss of profits or savings.

Buying a modem

AFTER a ram expansion and second floppy drive, the next peripheral on an average UK Amiga owner's wish list is a printer, usually a colour one.

But stop and think. A printer is only useful if you need to prepare and print a lot of text files. Writing letters to your friends can still be done by hand while you save up for the printer.

A modem, on the other hand, is about the same price or cheaper and can actually save you time and money. Letters take a day to arrive by snail mail, if you're lucky, whereas electronic mail – email – is delivered in seconds. You can logon to a board, post your mail and log off again in well under five minutes. That'll set you back 10p local cheap rate, half the price of a first class stamp.

Public domain software at a couple of quid a disk can get very expensive, particularly if the disk contains many programs and you're only after one of them. Downloading it from a bulletin board is cheaper.

At 2400/2400 you can download a 300k file in less than half- an-hour – that's 25p at local cheap rate. And bulletin boards get the files first. It can take up to six months for the same program to appear on a PD disk.

If you're thinking of buying a modem I strongly urge you to consider nothing less than 2400/2400 (v22bis in comms jargon). You can pick them up new for between £200 and £300 now.

Also, go for one that has MNP error correction, a protocol that will filter out all the spurious line noise characters when you get a bad connection.

A second-hand modem may look a good bargain at less than £50, but it'll almost certainly be an old, slow model – 300/300 (v21) probably. If you're unsure whether comms is for you or not, this may seem like the best way to start. However, remember that comms at high speed (2400 baud and over) is a different kettle of fish disks than comms at 300 baud. If you *must* buy second-hand, try to get a 1200/1200 (v22) speed modem.

Where's my local BBS?

HERE'S a short list of some free UK bulletin boards for you to try. They all run at 300/300, 1200/1200 and 2400/2400. There are literally thousands more, far too many to publish, but most boards will keep their own list of recommended boards to ring.

Have fun, and remember – if you want to keep the phone bill to a minimum, keep it cheap rate and keep it local.

01 for Amiga: 071-377 1358
AIX 386: 0905 52536
Alien BBS: 0472 250690
Alma: 0787 277745
AmLink: 021-778 5868
Arkham: 081-952 5128
Bedrocks UK: 0423 324540
Bitmap Bros: 0245 413728
Blitter: 0292 671638
Breakthrough: 051-734 5817
Cheam Amiga Board: 081-644 8714
Darkstar: 081-656 3944
End Zone: 0524 752245
Equaliser: 0923 662127
Hal: 0489 691069
Jersie Amiga: 010 45 531 4537
KnightOwl: 0375 375190
Liquorice Allsorts: 0633 244345
London Guest House: 081-748 0974
Mabbs: 021-444 8972
Mancunian: 061-227 9095
Murky Caverns: 081-426 9386
Nite Life: 071-976-6807
Oddball: 081-679 2583
Open Access: 081-427 3974
P SQ: 0293 511554
Parallel Dimensions: 0992 465366
Plus & Minus: 0559 322766
Public House: 0222 221168
Runway A500: 0293 884117
Scorpions Nest: 0022 826478
Sheer Logic: 0285 713688
Skyfall: 0792 772745
Welsh Wizards: 0443 815642

Klide

NOT a lot to be said about Klide. It's a kind of silent demo, best viewed in a darkened room with some freaky music on the hi-fi. The author, Jerry Kallaus, calls it a line art collage, the fastest draw in the west, no less.

Double click its icon and see what you think. Some of the 3D effects are very nice indeed.

Hot Summer Nights

THE DI

MORE original music from the keyboard of the jobless Scot, Howie Davies. This one's great in stereo through the headphones.

Since last month, when we featured his music for the first time, Howie has teamed up with some programmers and graphics artists from the AcidForce group. But he's still looking for a proper job. In music. Anywhere.

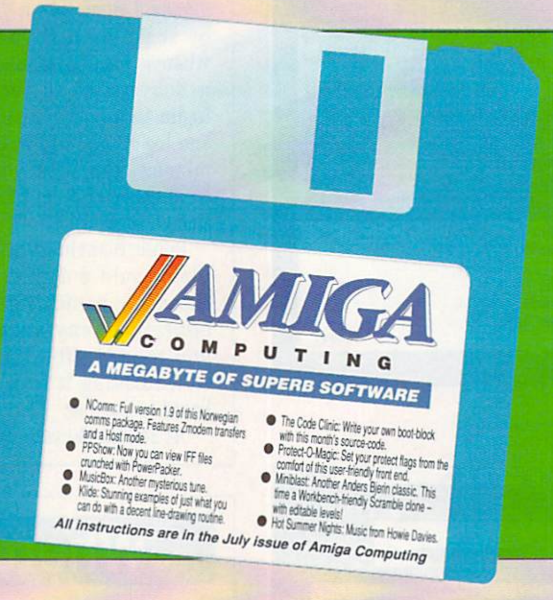
Incidentally, Hot Summer Nights will work with MusicBox v1.8. Simply copy it into your MusicBox directory or disk and add a Tool Types entry to the MusicBox icon. Something like *Song01=HotSummerNights should do the trick.*

● *Are you a budding musician looking for fame and fortune? If so, perhaps the Amiga Computing cover disk can give you a little push up the ladder. Original stuff only, please, preferably in self-contained modules.*

The Code Clinic

THIS drawer contains the programs and listings discussed in this month's programming feature on bootblocks. Double click the icons to view the listings. Note that there are a number of files in this drawer without icons.

See The Code Clinic article on Page 27 for further instructions.



Disc problems?

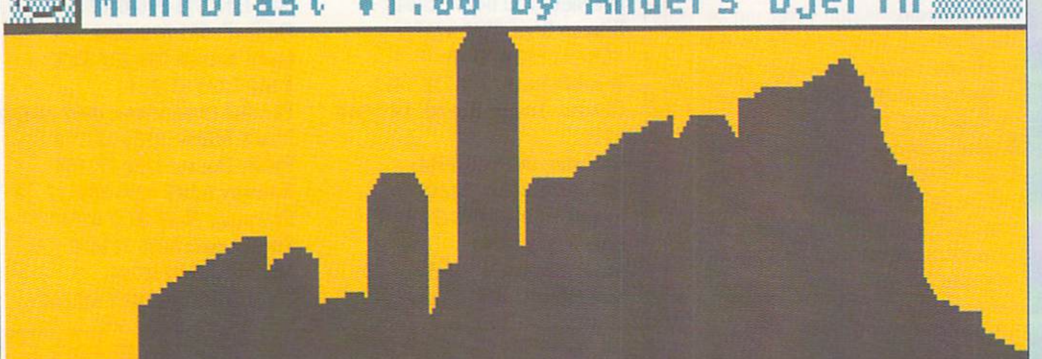
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Amiga Cover Disc, Database Direct, FREEPOST, Ellesmere Port, South Wirral, L65 3EB.

You will be sent a replacement with our compliments. Please allow 28 days for delivery.

MiniBlast



ANDERS BJERIN, author of such cover disk favourites as Track Record (aka Car) and Sys, has created in MiniBlast the ultimate workbench toy – a colourful, five level, sideways scrolling shoot-'em-up with sound.

It sits neatly on the workbench in its own 5in x 3in window and will happily multi-task with anything else you care to run.

Designed in the good old Scramble tradition, you control a helicopter on a journey across a barren rocky landscape. Barren, that is, except for the missile silos which fire nasty sharp-ended things at you. Shoot the silos and the projectiles to notch up points – 2 for a silo, 1 for a missile. Oh yes, and you get one point for every missile you dodge.

To begin with you can choose to start on either level one or level two. After you've reached the later levels you'll be able to start on any of those if you wish.

To give you something to aim at, my highest score is 257 on level two.

But the bestest thing about MiniBlast is that you can create

SK

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If you bought your magazine in a shop and when you got home you found your disc was damaged, please return it, within two months of the on-sale date of the magazine, to:

Amiga Cover Disc, Stanley Precision, Unit F, Cavendish Courtyard, Sallow Road, Welldon North Industrial Estate, Corby, Northants, NN17 1JX.

You will be sent a new disc with our compliments. Please allow 28 days for delivery.

your own levels. Simply click on the Edit gadget and away you go. Click on the Walls gadget to create the landscape; hold the left mouse button down in the playing area and move the mouse about a bit. You'll soon get the idea. To place a silo click on Bases and then in the playing area where you want to put it. The arrow gadgets scroll the playing area left and right.

Only level one can be edited to bein with. As you complete later levels you'll be able to edit those, too.

MINIBLAST is Copyright ©1989 Anders Bjerin. If you find any bugs or you have suggestions, please write to Anders at: *Tulevdagen 22, 181 41 Lidingo, Sweden.*

You may copy this program freely, but may not exchange it for money without written permission from the author. Nor may any part of this program be altered or used within another program.

AMIGA COVER DISC

Earn up to £1,000!

WE are always looking for original contributions for the *Amiga Computing* cover disc. If you think something you have written is good enough to share with everybody else who reads the magazine, send it along and we'll have a look.

If we like what we see, it could earn you up to £1,000.

Please let us know which files, if any, your submission needs from the Workbench disc. If it is clickable, feel free to design an original icon. But don't make it too large. And please use the standard Workbench colours.

Bear in mind that a program which does not run on a 512k machine would have to be exceptionally good to make it on to the disc.

Amiga Computing will buy your work on an all rights basis. We are not prepared to pay for programs which are already in the public domain or have been spread by other means. However we are quite prepared to launch your program into the public domain as either freeware or shareware if that is what you wish.

Please enclose this coupon, or a photocopy of it, with your submission. Include a file on the disc with full documentation, your name, address, phone number and a few details about you and your kit. A photograph of yourself would be nice, but isn't essential.

Don't forget to duplicate on the disc label the program name, your name, address and phone number. If you want your disc back, enclose a self-addressed, stamped envelope.

Name ....Age..........years
Address ....
....
....
Daytime phone...After ....am
Evening phone ....After.......... pm
Submission name ....
Submission size....................bytes in total

We will accept submissions up to 500k in total length, including documentation. But the shorter your submission, the better chance it stands of getting on to the disc. If it is a compiled or assembled program include all the source code, but do not count this in the size of the submission. Write a brief description of your submission below. If it consists of more than one file, describe what each file is for. Attach an extra sheet of paper to this form if necessary:

....
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Sign this declaration:

The stuff on this disc is mine. I didn't nick it off someone else. It hasn't been published before and I haven't submitted it elsewhere because I want *Amiga Computing* to publish it.

Signed .... Date.................................

Post your submission to: Amiga Computing, Cover Disc Submissions, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP

A3000 – a dream come true

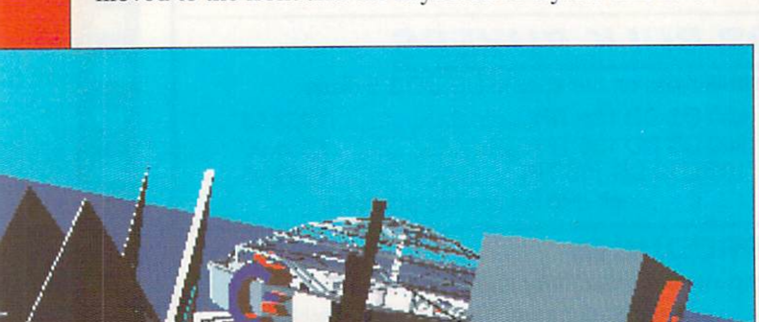
Now is the time to lay rumours to rest. The Amiga 3000 has been revealed. Simon Rockman got his hands on one and discovered it has been well worth the wait

COMMODORE bills the A3000 as an evolution rather than a revolution, and a good thing too. The problem with revolutions is that people get hurt and the last thing a new computer needs is for existing software to curl up and die. This evolution will spread across the species. A lot of the features which debut on the A3000 will migrate to lesser Amigas.

The styling is crisp yet reserved. Commodore want to sell Amiga 3000s to the workstation market, to the kind of people who need high power computing and who have the high power accountants to pay for it all.

Significantly narrower than an A2000 it hides some real Tyson punch in a small frame. The power switch has been moved to the front and the keyboard re-styled. The latter change is an unnecessary embellishment in my opinion, I am something of a fan of the old 2000 keyboard. Still, at least it feels the same. The crude old mouse has been retained.

Around the back things are very different and provide a better clue as to what is going on inside. The blanking plates for the Amiga and PC expansion cards lie sideways. There are only four of them, but since the hard disk controller has been moved to the main PCB you need one



A frame from the huge ray-traced animation played at the recent A3000 launch





fewer. No one is going to run an A3000 off floppies.

The connectors along the back include phono sockets, an RS232, centronics and the, erm, standard 23 pin Amiga video connector. Just think, you'll have no problem using a modulator and connecting the Amiga to the family telly. Great.

New connectors include a 15 pin joystick-shaped video connector and a switch to isolate the display enhancer. A new gizmo, and one which makes the A3000 a bit special.

The mouse and joystick ports are still there on the right-hand side, blatant favouritism towards the right-handed majority. The overall appearance is fine – the best looking Amiga yet.

This is the machine the Amiga was never supposed to be. Conceived as a games machine, the original Amiga was to have been keyboardless. But when Commodore gave the computer life, the emphasis shifted. The world is a richer place for that.

There are three flavours of the Amiga 3000. A 16Mhz model with a 40 meg hard disk and two 25 Mhz machines –

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one with a 40 meg drive, the other with a 100 meg drive. All hard disks are fast SCSI units. Thankfully the 3000 has no support for the slow drives with which the A590 and 2091 are supplied. The sound of the drive can be heard above the quiet fan.

The machine boots up into the new 2.0 Workbench by default. It is possible to regress to 1.3 by holding down both mouse buttons while booting. A similar trick is used by the A2620 and A2630 add-in processor cards for the Amiga 2000. With those a menu offered the choice of using the standard 68000 instead of the go-faster 68020 or 68030 processors.

The Amiga 3000 only has a 68030, so an option to turn it off would be a trifle pointless. As a result any program which is foolish enough to break the hardware rules will fail.

One of these rules is a ban on self-modifying code – programs which change themselves. Unfortunately a lot of disk protection systems rely on this, and so won't work on the A3000. A shame because the programs would probably run. Still, only games are affected.

THE new processor has a lot of advantages. It is faster, the overall performance is around 10 times that of a standard Amiga. Maths is very much faster, particularly on the 25Mhz machines which sport a 68882 co-processor, the newer faster version of the 68881 chip on the 16Mhz machine.

All memory is 32 bit. This helps throughput, particularly disk access. The Amiga 2000 add-in cards cannot DMA into 32 bit ram, while the GVP card reviewed last month has a slower disk interface. There are no bottlenecks. This is a fast beast.

The only thing which doesn't match is the Amiga chip set. Designed in 1984, it still runs at 7.16Mhz. There have been improvements in the design, some of which are seen for the first time on the 3000, but the kind of re-working that will allow them to be clocked faster requires a back-to-the-drawing board approach.

Advances in Amiga chip technology have been filtering through since the first A1000s appeared. The first to affect

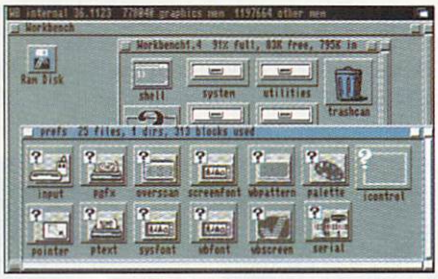


This is what Workbench 2.0 will look like, rendered in tasteful grey and blue

A500 and A2000 owners was last year when the 1 meg Agnus was released. This gives those machines a full meg of chip ram, the memory the blitter can access, and so the limiting factor on the quantity of graphics which can be manipulated. When you are running DPaint and it closes Workbench for you, it is freeing up chip ram.

One megabyte is the most A500 and 2000s can cope with due to the PCB design. The A3000 can have 2 meg chip and 16 meg fast ram. It is supplied with 1 meg of each, the idea being that you move the small 1 megabit chips over to chip ram and install 4 megabit chips into fast ram when you want to upgrade. Six meg will not be an unusual size for an A3000, the rich and power hungry will opt for a full 18 meg.

This is a lot but the buzz among serious workstation users – at whom the A3000 is aimed – is that any top limit is restrictive and what is needed is virtual memory, where space on the hard disk can be used as though it was ram. All Motorola 68000 family chips above the 68010 can handle this, and virtual memory was planned for 1.5. Maybe it will appear one day.



The new expanded preferences section

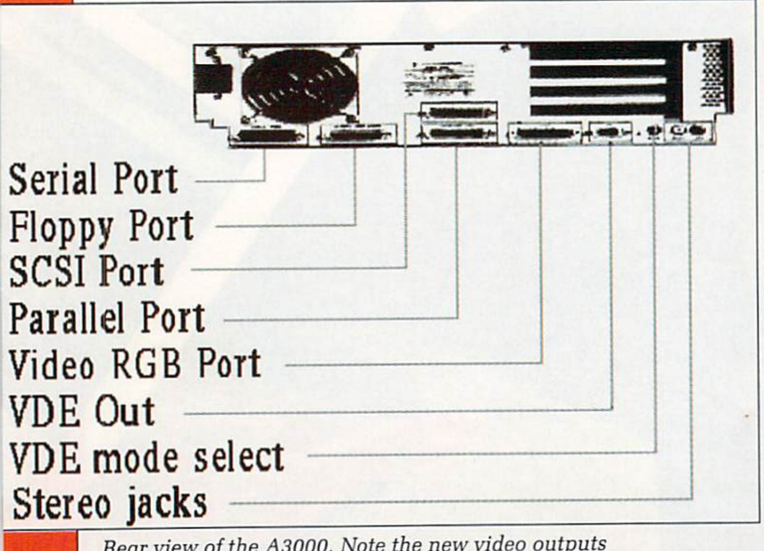
The other chips which are new to the A3000 are versions of Denise, Gary and Buster.

Denise is the most exciting, handling the graphics and introducing new modes. These are additional to the existing modes, so all old software will still work as before unless the program is doing something incredibly naughty.

Software has to be specially written to utilise the new modes. Since Workbench has undergone suitable treatment, all programs which run on the standard Workbench should automatically cope. Anything which assumes Workbench cannot be bigger than 640 x 256 pixels is in for a shock. Programmers, you *were* warned.

THE new modes are a 1280 x 256 in four colours from a palette of 256, and a 640 x 480 in four colours from only 64. But, and this is the clever bit, it is non-interlaced. The result is the same as IBM's mode 3 on the 8514/A monitor, if that means anything to you. To do this you need a VGA-type 31Khz monitor. Because the old video modes require a 15Khz monitor, you'll either need a multi-sync – oops, NEC trademark, I mean multi-scan – or two monitors.

A suitable screen – and you might well want one since the chips are retrofittable to A500s – will set you back £350ish, if you shop wisely. There is the added advantage



Rear view of the A3000. Note the new video outputs

that the chip can be switched between NTSC and PAL modes. This means naff YASTPs can be made slightly less naff by being expanded to fill the screen.

Video buffs will enjoy the new genlock facilities. The old genlock would only work with one colour – 2.0 and the Enhanced Chip Set (ECS) conspire to allow any colour or combination of colours to be genlocked. The border can be switched to opaque regardless of its logical colour.

If you are a programmer and are getting really excited about all these sexy new features, the sort of person who jumps up and down when they hear that the hardware collision detect for sprites now works, brace yourself: There is a downside. Anyone who has broken rules about tagging on to copper lists – the rule is: don't – will get a mess on the screen.

Since the A3000 can have twice as much chip ram as the machines us mortals use, the chip numbers vary. If you want to be flash and upgrade your machine you'll need to order an Agnus 8372-R3 and a Denise 8373-R2a. But don't expect your dealer to get them for a very long while.

Buster is a chip you will find in a few existing Amigas. His job is to look after the data bus, managing signals. This is much more important on the A3000 where datum is whizzing around very much faster.

The new and fatter Agnus is freely available, albeit at a price – around £50. This gives A500 and A2000s more chip ram. New Gary is very little different, fixing a minor bug which caused some fast memory to be treated as slow, but not chip, ram.



WORKBENCH has changed a lot. The original blue, white, orange and black defaults were adopted as a result of a NASA study. Astronauts clearly have different eyes to programmers and so a more sedate black, white, grey and "it's not going to rain today" sky blue has emerged.

These look good, but present two problems. First, most of your existing icons will look dreadful. Second, the grey on blue, and vice versa, are unreadable on each other. If you use a mono monitor, forget it. As ever, the colours can be changed and the number of colours is selectable in binary powers from two to 16.

Instead of the device icons appearing on a workbench screen they now live in a window. I can't really grasp why, and this is the only change I don't like. All windows can have a texture applied to them, the Workbench one can be independent of the proper windows so that windows show up very clearly. This has to be a repeating pattern and stops short of a whole picture like the PD utility Dropcloth.

A constant problem for new users has been understanding the CLI. You either had a nice simple graphical interface or were dropped into the deep end with #? syntax. Workbench 2.0 offers a half-way house, the ability to type in one line of CLI-type stuff directly.

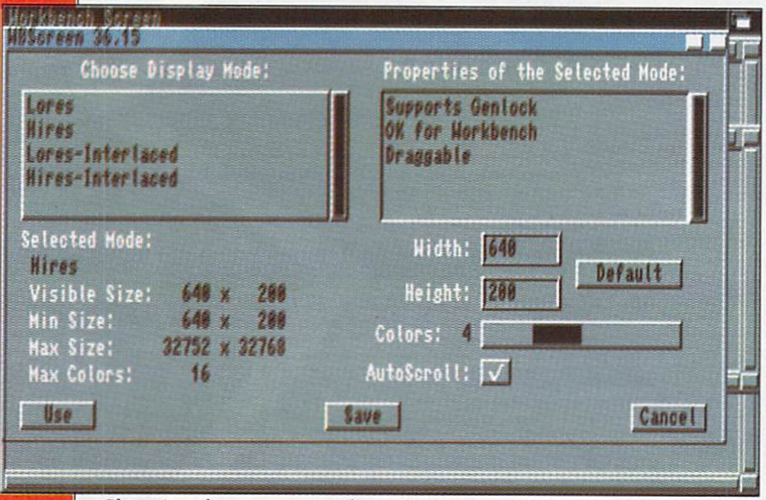
Workbench errors are easier to understand. Instead of having to look up mystic numbers to find that 103 means there is not enough ram or 205 means there is no program for the icon, there is now some text telling you what you have done wrong.

Even with a meg of chip ram – 2 meg if you have upgraded the A3000 – you might end up with the dreaded 103. Assuming you have a CLI open, you can shut Workbench and free up some ram. After all, LoadWB is just a program and there is no reason why you shouldn't quit it, unless of course a program you are running needs Workbench.

Many of the new features relieve frustration in using the Amiga. One of these is the handling of new drawers. In the past you had to keep a drawer empty, duplicate and rename it to create a new one. Instant drawers are now possible with the new drawer option. It is very much faster and neater.

Another enhancement is the ability to open a parent drawer from the bottom up. You don't have to shuffle windows, find the device and open the main drawer. But

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Choosing the screen size from Preferences

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the feature I most like is Select All.

You know how it is. You have just finished a major session with DPaint and have loads of hiddledy-piggledy icons. You select clean-up and start shift-clicking on them so that you can do a snapshot and keep the system neat. But in a fit of over-clicking you end up running DPaint and have to start again.

No worries. Select All will save the trouble of shift clicking. A neat workbench is now no hassle. A touch of Mac magic – I didn't say that, honest Mr Sculley – gives the option to draw a box around icons and select all those inside.

Atari lovers will appreciate the View By Text option. This replaces your lovely, hand crafted icons with a list of files. OK they are in nice Amiga fonts, but what is the point? Needless to say, I hate it. If you want to view files without icons there is a special mode which attaches magic icons to all the files and directories. You can then move them around and switch off.

INCREASED font control means that you are quite likely to have a different font below the icons. This may look good, and Workbench clean-up now takes the text into account, but the font won't change until you re-open the window. For this reason there is a ResetWB option which closes and re-opens all windows. This is needed if you change modes.

One of the magic spells all Amiga owners curse at is the S:startup- sequence. You know how it is never quite right but you can't be bothered to load Ed and fix it? Well, worry no more because there is a special drawer which replaces startup-sequence. Called the Startup drawer, all the programs inside are run on booting. These can either be set to run one after another or simultaneously. Easier and less hassle, I'm sure you will agree.

ONE of the contributing factors to the new look is a reworking of Preferences. This program has always suffered from growing bit by bit. Having to select two printer sub-menus for each new printer always struck me as being a bit cack-handed.

Preferences has been expanded into a number of programs to control command key definitions, the keyboard option, no more fiddling with CLI to get a £ sign.

One program controls the palette, but this segmentation means that any application can update the preferences file, so if a PD palette requester you prefer pops up on a cover disk, you can replace just that bit of Preferences.

The same holds for all the selections. Parallel and serial port configuration programs will need updating if you buy a board to add extra ports.

As before you can edit the pointer. Mine has a drop shadow. And as I hinted before you can change the font. There are three types – text which appears in CLI, icon names and window names. For some applications there are limits on size, and they have to be proportional. Others can be totally wild. How about a hi-res Gothic?

Such flexibility is bound to cause problems. Lots of programs assume size 9 fonts, and some even rely on Topaz. With more users customising the screen, developers are going to have to be even more cautious.

Not everyone will like the new look. It takes a bit of getting used to but with a good monitor – no, put the family telly back in the front room, it would look silly on an A3000 – Workbench 2.0 is much more restful. And it is easier to use, with stacks of keyboard equivalents.

Whenever two or three overweight, sandal-shod, developers gather, the talk turns to ARexx. There is a theory that programmers promote the image of Unix as being difficult just to elevate their status. Such

Looking Forward

COMMODORE will have Unix, the operating system which will dominate 1991 as the corporate world discovers it really does need networking and multi-tasking. Amiga will be ready with Unix System V version 4.

The software isn't finished yet because AT&T, which supplies Unix, hasn't finished its bits. It will be expensive but offer a lot of power and, hopefully, open up great new markets to the Amiga.

Further off is the next generation of Amigas. They may not even be called Amigas, and they certainly won't appear for two or three years.

I'd speculate that they will be based on the Motorola 88000, the RISC successor to the 68000, and the machines will have better versions of the Amiga chip set, perhaps offering a level of compatibility. Most of the Amiga system is written in C, but I wouldn't like to have to port it to another processor.

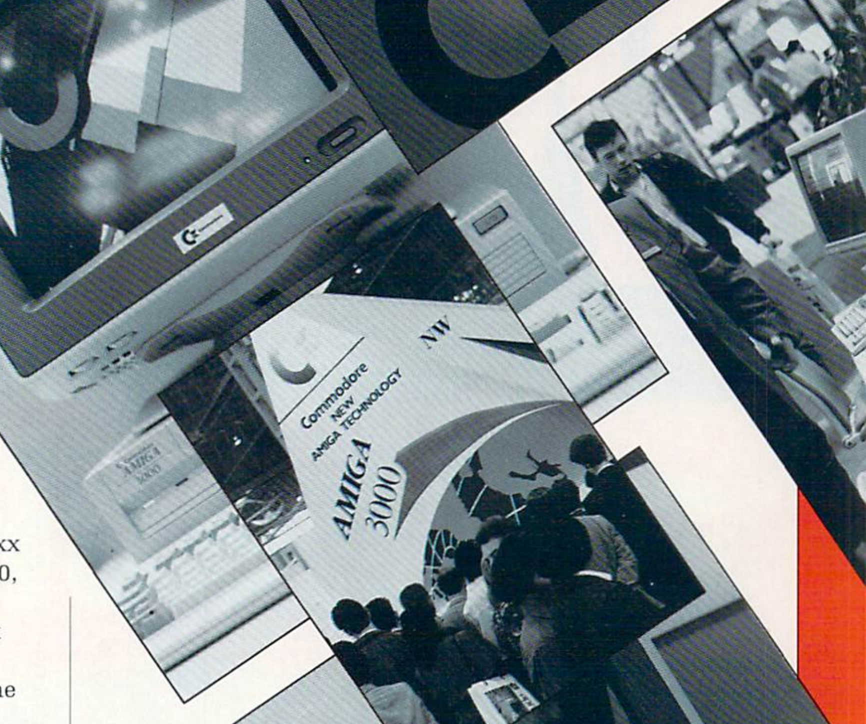
Still, the men from America have worked wonders this far. The Amiga 3000 is enough to be getting on with.



programmers, when confronted with something like an Amiga, seek refuge in ARexx.

We reviewed it yonks ago. Basically Arexx is a programming language for CLI, but it goes beyond a standard batch file by interacting with the programs.

An ARexx program can be written to take whatever your word processor spits out, convert it to Ascii, archive it, log on to Cix, upload the file, send a message to someone, download any unread mail and log off, while you keep using the word processor.



Of course, the comms program needs to know about ARexx to give it control, and it helps if the word processor does too, but these things will come. ARexx forms the foundation for interconnectivity. In five years' time the rest of the world will catch on – they still think digital watches and multi-tasking are a pretty neat idea. ARexx used to cost £50, now it is free.


Some of the many new features provided by Workbench 2.0

If you haven't bought a hard disk perhaps the single greatest improvement in Workbench 2.0 is Fast File System (FFS) for floppies. With the application of caution and cunning, this has been possible under 1.3, but with suspect reliability.

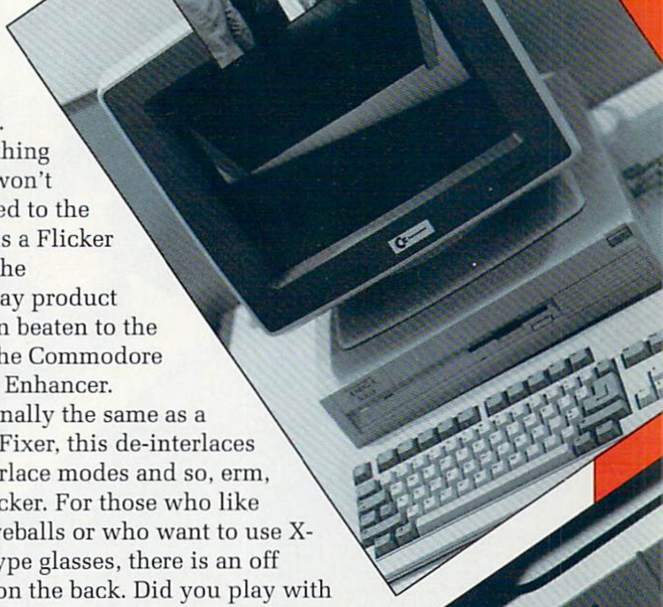
Workbench 2.0 does it properly. This is no great shakes for Amiga 3000 owners, but some other improvements help. While retaining disk compatibility the wizards at Commodore have sped up FFS. They have also added some bits that won't get used unless you have a network, locking records so that they cannot be corrupted when several people are using a file.

Inside, the A3000 is as neat as it is on the screen. The expansion slots have been turned sideways. Beware of cards which run hot, there is a lot less cooling from a horizontal card. All slots are Zorro III. Like previous Zorros, this is 100 pin, but is compatible with Zorro II. Most cards which have been tested worked straight off.

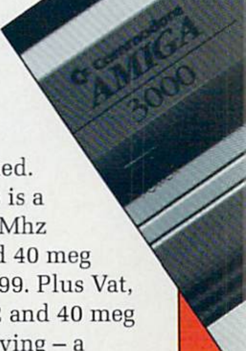
Of the four, one is on its own, the other two line up with non-Zorro slots, so a card can be designed which plugs into both. Predictably two of these allow you to join Amiga and PC slots.

The fourth is more interesting. It is a video slot, like that found the wrong side of the PSU in an A2000. This opens up plenty of scope for special effects video boards which take instructions from the computer and manipulate the image.

The CPU slot won't take A2620 or 2630s. There is no point – it is a new format with 200 pins. Commodore talks of adding a 68040 or RISC processor. My guess is that an 88000 card is being developed as a stepping stone to the next generation of Amigas.



One thing which won't get added to the A3000 is a Flicker Fixer. The Microway product has been beaten to the job by the Commodore Display Enhancer. Functionally the same as a Flicker Fixer, this de-interlaces the interlace modes and so, erm, fixes flicker. For those who like itchy eyeballs or who want to use X-Specs type glasses, there is an off switch on the back. Did you play with Meccano when you were a small boy? Good. You'll love the drive bay chassis. This slides in and out making it a breeze to fit a more interesting drive.



All these features will no doubt have your credit card running for cover. Well, it is justified. Put your bank manager on danger money, this is a workstation not a geegaw. The cheap (hah) 16Mhz machine with a 68881 maths co-processor and 40 meg drive – the one that no one will buy – is £2,499. Plus Vat, plus monitor. The middle one, 25Mhz, 68882 and 40 meg costs £2,999 and the only one really worth having – a similar spec as the second but with a 100 meg drive – will see no change from £3,299, plus, plus.

Still, one can but dream.

Win a Checkmate

PREVIEWED in our May issue, Checkmate's A1500 expansion system looks like one of the most exciting add-ons ever produced for the A500.

Almost a complete Do-It-Yourself A2000 kit, it re-houses the A500 in two separate metal boxes to hold both the keyboard and main circuit board. The floppy drive is repositioned to face the front, a hard drive can be fitted internally and the whole system can be mounted in a 19in rack.

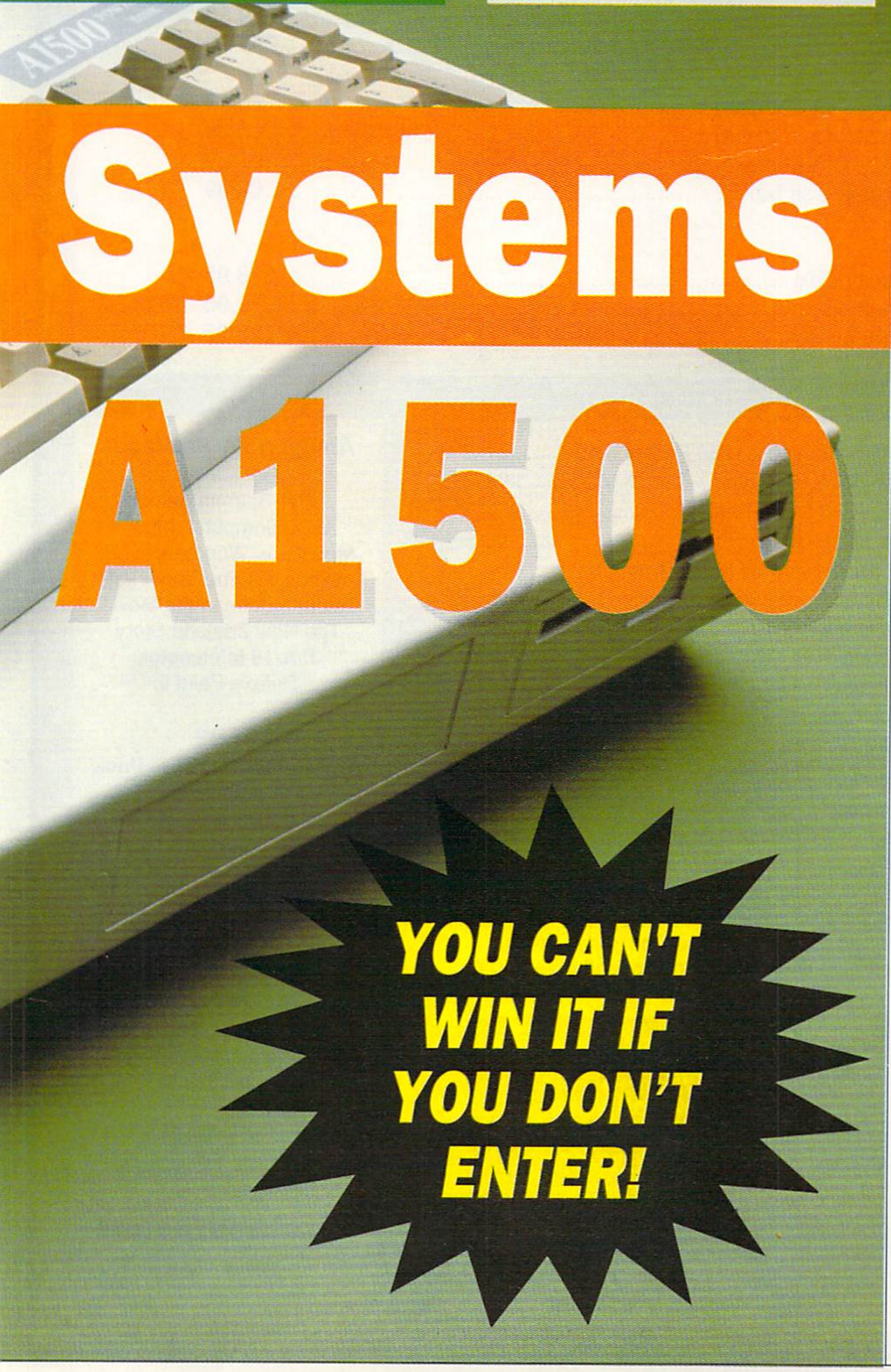


Systems A1500

A golden chance for you to turn your A500 setup into a brand new computer

The added flexibility of the A1500 will allow the A500 owner to upgrade his system piece by piece, eventually taking it beyond an A2000.

Checkmate Systems has agreed to give an A1500 system to a lucky Amiga Computing reader. Of course, by lucky we mean those readers clever enough to enter our special competition, get the answers right and then have their entry picked from the magic binbag by Tym the terrific art person.



Rules

1. The first correct entry drawn from the magic binliner on July 18 will win the prize.
2. Photocopied entry forms will be permitted, but multiple entries will be treated with the disrespect they deserve.
3. Employees of Interactive Publishing and people who don't like Pink Floyd stand a good chance of being disqualified.
4. The editor's decision, however strange, is final.

HOW TO ENTER

BELOW is a list of some of the features boasted by an A1500 system. All you have to do is sort them into what you think is their order of importance and write the relevant letters in the relevant boxes.

For example, if you thought A was the most important feature, you would write A in box number one.

The correct entry will exactly match the order previously selected by the crack *Amiga Computing* team. No tedious little tie-break sentence is required because me know how tricky they are. Of course, if you want to complete the sentence "I am sending AJ lots of money because..." please feel free to do so.

ENTRY FORM

A1500 features

A – Houses keyboard in a separate box.
B – Supports a full A2000 video slot.
C – Repositions the floppy drive.
D – Designed in the UK.
E – Can be rack mounted.
F – Full upgrade path.

I think the A1500 features should be placed in the following order:

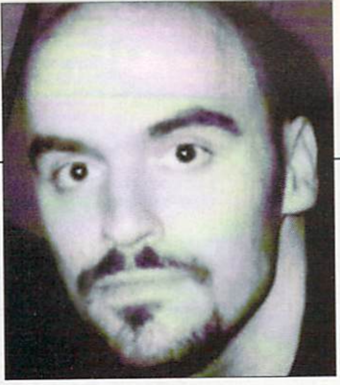
1	2	3	4	5	6

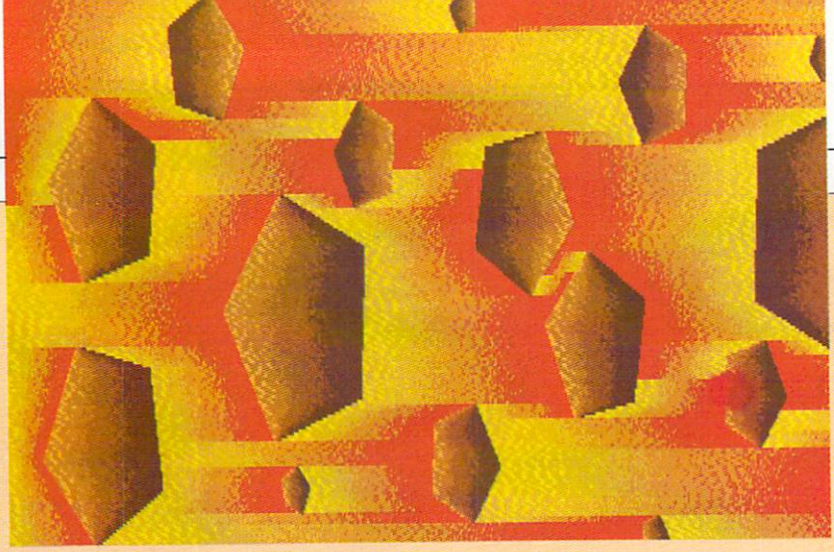
Name..
Address..
....
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Postcode...
Phone number...

I have read and understood the rules and agree to abide by them.

Signed..
Date..

Send your completed form to: *Checkmate A1500 Competition, Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP.* The closing date for entries is July 18.





Espace

Portfolio

PIERRE JOLIVET is an enigma, a man of many talents. Some might call him weird, others insane. We prefer deep.

As you've guessed from his name, Pierre is French, although at the moment he is living in Dublin where he's working as an adviser in computer graphics alongside computer technology companies. Before that he created the music for a French cartoon, L'Intouchable, which was presented at the Cannes festival this year.

Pierre's second love is music. The music for the cartoon was composed using his Amiga 1000, which he's had since 1987, and Music-X. Indeed Pierre and his Amiga have played a number of live concerts around the world and have made four albums, including one called A Porky Prime Cut released in this country on BNIA Records in 1988. You might have heard of him. He works under the name of Pacific 231?

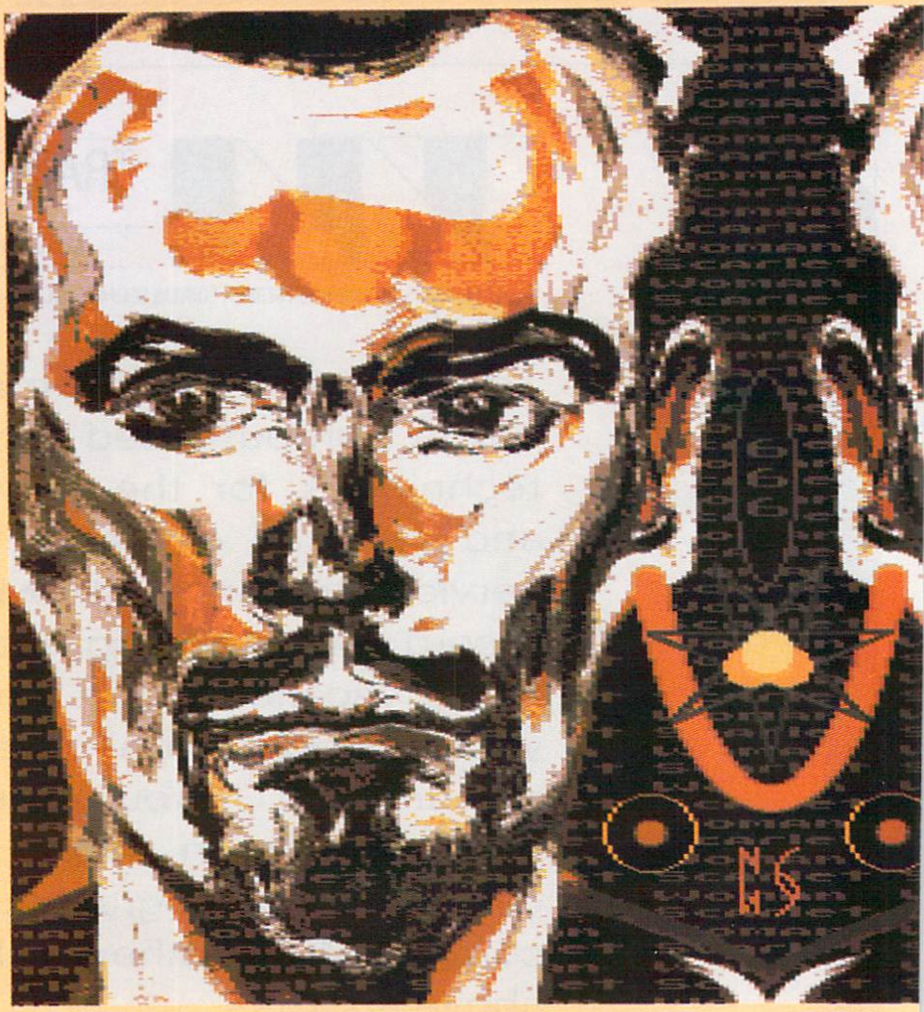
Now that we've got your attention and shown you what a talented guy this is, we're sure the images on these pages have taken on another dimension. This is modern art. It's not everyone's cup of turpentine, an acquired taste you might say, but it's certainly highly original.

Pierre, who owns and experiments with all the top Amiga graphics packages, has now progressed to DeLuxe Video III, putting digitised images created with Vidi-Amiga and Pixmate to music in short animations.

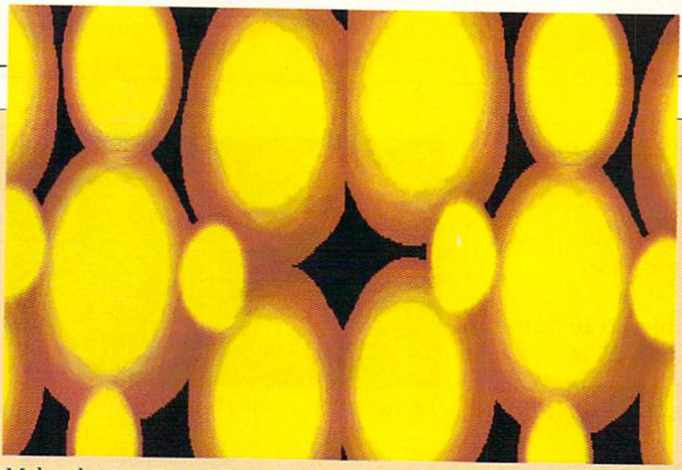
More power to your palette, Pierre. Keep the discs coming.

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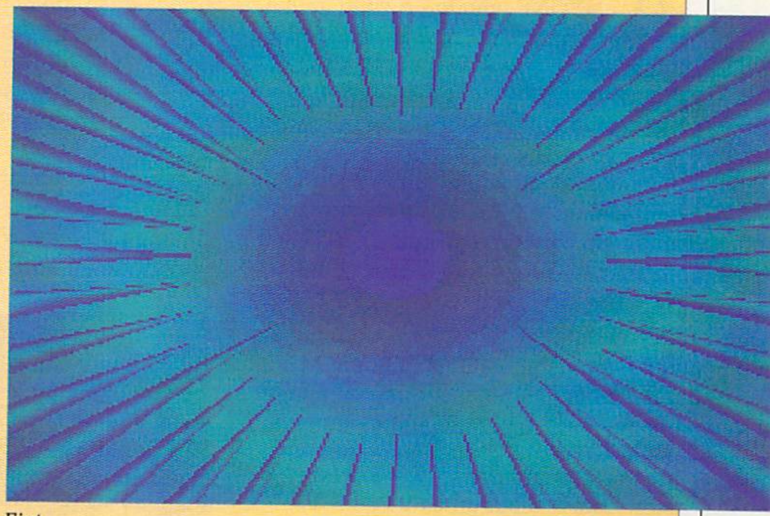
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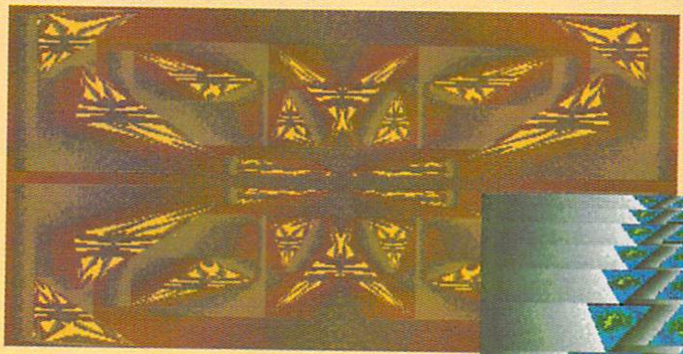
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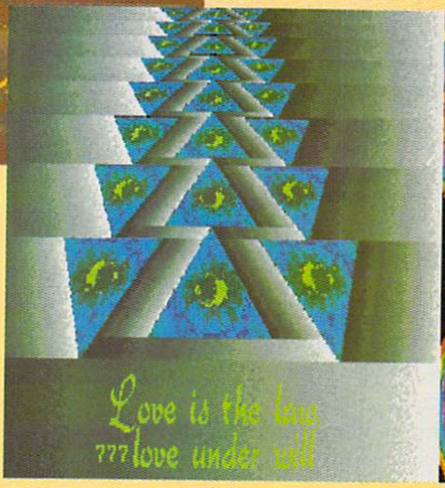
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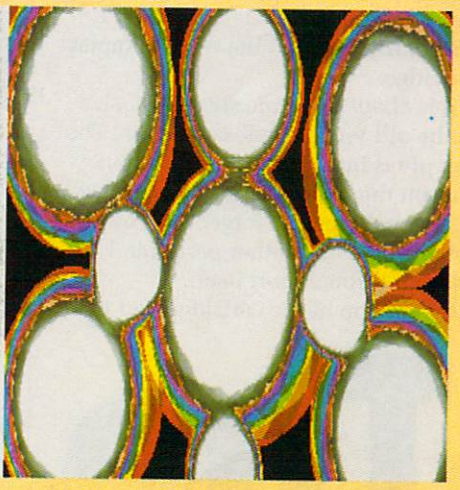
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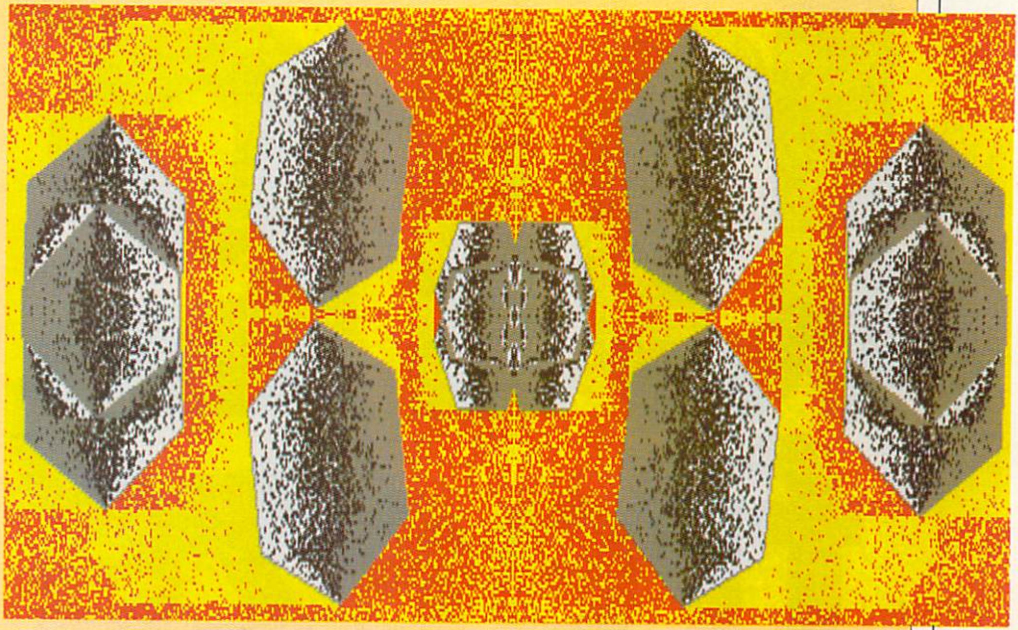
Scarification



Oudjat







Stonehenge

The big freeze

Jolyon Ralph casts an expert's eye on two magic boxes that Amiga hackers have been crying out for

ANYONE who has owned an 8 bit machine can't have failed to have noticed the varied selection of freezer cartridges for them, ones like the Freeze Frame, Multiface and Expert Cartridge.

As well as allowing you to transfer 8 bit tape games to disk, the better ones also contain a host of useful utilities for programmers and those interested in having a look inside programs and ripping out the graphics.

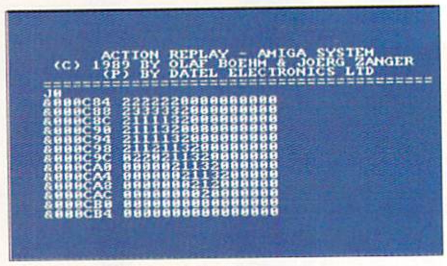
Now the first two of these cartridges are available for the Amiga – the Amiga Action Replay from Datel Electronics and the Nordic Power from Data & Electronics Venlo B.V. (Holland).

After signing and returning a form to state you will not use the Action Replay for illegal activity, you receive a box containing a small manual, a disk of utilities and the Action Replay cartridge.

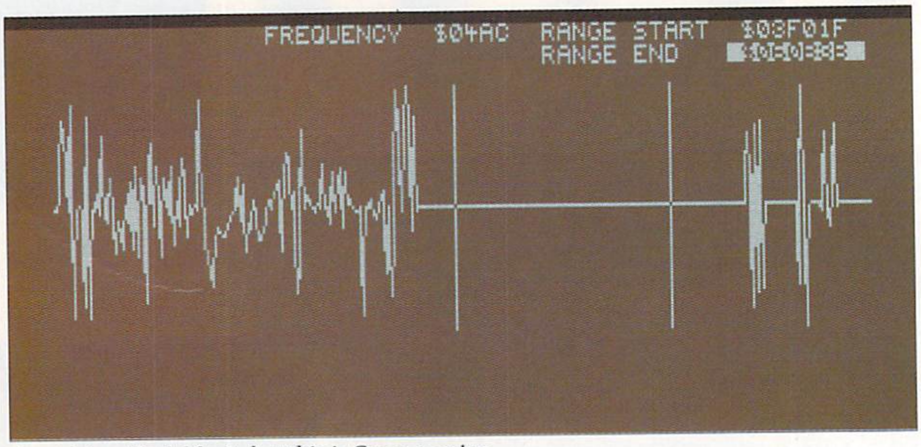
It is about the same shape and size as the old Vic 20 game cartridges. The box plugs into the A500 expansion port on the left of the machine. It has no through port, so forget it if you've got an A590 or another peripheral with no through port itself.

On the top of the cartridge you will find a small green power LED, the magical freeze button that starts the cartridge going and a slo-mo device – a little knob you can use to slow down the Amiga, a sort of processor decelerator.

I generally prefer things to go faster rather than slower, but if you're having problems with a game you can slow it down with this knob to just the speed you require.



Recognise the pointer?



It might not look like it, but this is Green snoring

Once the cartridge is plugged in and you turn on your Amiga, you are greeted with an Amiga Action Replay screen which flashes up before the Workbench disk hand pops up.

So you boot up your Amiga with a game and press the button. You are immediately confronted with a blue screen with the Datel copyright message at the top. The screen is lo-res 40 column, probably due to memory restrictions rather than a desire to deeply annoy Amiga owners with monitors.

At this point you can start fiddling. While doing so you will soon find out that pressing Z gives a Y, and pressing Y gives a Z. This is because the cartridge uses a German keymap. You can switch it to a USA keymap by pressing F9.

There is no UK keymap, so if you have a UK keyboard you will find some of the symbols above the number keys messed up.

Not that they work properly with a US keyboard either. Pressing Shift-2 gives a funny squiggle character. If you use said funny squiggle character in a filename and then try and look at the file later with the utility disk, you find that it is a y with an umlaut (two dots) above it.

The strange thing is that no language in the world uses a y with an

umlaut. Legend has it that this character was invented by IBM and every computer manufacturer since then has blindly copied it, never thinking to check up if the character is actually used or not.

You can format a disk to the special FDOS format, which is basically no format at all. It takes about two or three seconds. Once you have done this you can make an entire memory dump of your Amiga to a disk file.

This not only saves an entire image of memory to disk, but also the current state of all the Amiga's hardware, including the hardware registers and the 68000 registers. It even remembers the position of the disk head in the drive and moves it back to the correct place when loading in memory dumps.

Such dumps are compressed before saving, which can take a couple of minutes, but results in three or four memory dumps fitting to a disk on average.

The disks the Action Replay creates can be made into bootable Amiga ones with a program on the utility disk. Booting such a disk gives you a menu to choose which memory dump to load and run.

THIS little cartridge does a lot more besides saving out memory. Hardware-hitting programmers will love it for it contains a monitor and disassembler for looking at the programs in memory. You can view normally write-only hardware registers, you can set breakpoints and execute code until the processor reaches the point you set.

You can block move memory around your machine; it even has a copperlist assembler and disassembler to examine and fiddle with the workings of the current copperlist.

You can rip graphics out of almost any game or demo at any time – you can even rip out the screen the Amiga puts up asking for a Workbench disk to be loaded.

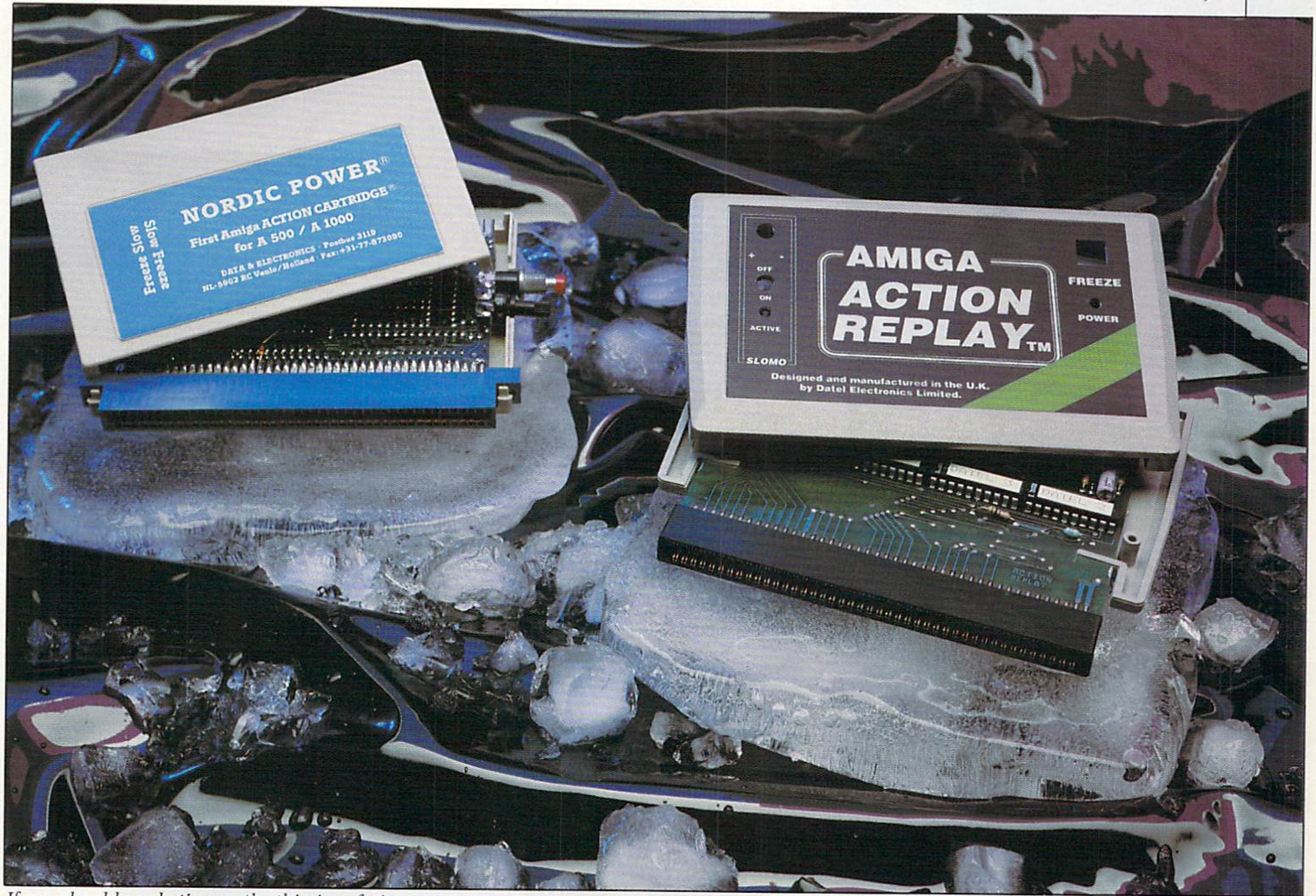
However, a lot of game screens are built up of various layers stacked vertically, and each has to be saved individually because each can be a different resolution or use different colours. Once saved to disk using the cartridge, these files can be converted into standard Amiga IFF files with the supplied conversion utility.

Action Replay has a trainer mode to find pokes automatically for infinite lives on your favourite games. It works by looking for the initial number of lives in the game, then you play, lose a life, press the button, and the Action Replay looks for any memory location that has decreased to the right value from the last check.

It often takes several passes to track down the life counter, and some games cannot be trained this way.

Once you find the life counter for your game, you can either alter it and give yourself 255 lives or use the built-in option to find the SUB or SUBQ instruction that decrements the counter and replace it with a harmless TST instruction. This will prevent the counter from ever reaching zero.

Pressing Help gives a list of the commands. This revealed some not in the manual, so I looked at the disk for ➤



If you should go skating on the thin ice of piracy...

Danger!

Heavy technical info

NEITHER of these cartridges wins any points for OS friendliness. They are designed to do things the Amiga hardware tries not to allow. Problems arise with certain hard drives. The A2000 version of the Nordic Power cartridge plugs in the MMU slot, where faster processor boards usually go, and will not work if a Bridgeboard is in the system.

If you have extra memory, both cartridges assume it will be at $c00000, although Nordic Power also detects memory at $80000 in new 1 meg chip ram machines.

This is fine if you have a Commodore A501 or a compatible 512k board, but anyone with other memory boards installed in their A500 will find that the cartridge will not detect the extra memory.

Nordic Power refuses to let you even look at memory in other areas, such as the Spirit 1.5 meg memory board in my A500.

Despite the German documentation, I managed to work out that Action Replay has 16k of ram mapped to $9fc000 and 64k of rom mapped to $f00000. If Commodore decides to put something more interesting in these areas of memory later on the cartridge will have to go.

Action Replay takes over the 68000's level 7 interrupt and the unauthorised interrupt. What appears to be either a programming bug or a deliberate attempt to confuse those investigating the workings of this cartridge means these vectors are set to $c5f0000x instead of $00f0000x. On a 68000 the top byte of a long-word address is ignored, but it is not ignored on a 68020 or above, which will cause a 68020 to jump to the wrong part of memory.

Programmers have been warned many times never to use a non-zero value in this top byte. Because it is hard-coded into the rom of this cartridge it will presumably not work with a 68020/030 board installed, although I have not been able to test it with one.

The Nordic Power cartridge contains 64k of rom and 16k of ram. It has defied all attempts by me to track down where it is or how it works, because it does not seem to use any of the 68000 interrupt lines. This may make it more difficult for games companies to protect against.

➤ further information. I found a file called Read.me, so I did. Unfortunately it was all in German and wasn't much help. And it didn't contain any y's with umlauts either.

On reset the Action Replay checks for anything resembling a virus and, if found, wipes the memory totally clean. This approach is a bit heavy handed, but certainly effective. It can be disabled if you use a recoverable ram disk. The cartridge can also optionally disable fast memory for badly written games or demos.

The hardware assumes you have a standard A500 with or without extra drive and, if you have a ram expansion, it assumes it's an A501. Anything else you may have inside your Amiga could cause problems with the cartridge. It might be worth checking with Datel whether the Action Replay will work with your specific configuration before parting with cash.

Other than that, the hardware is good. A few minor points like the 40 column screen and there being no lower case characters, but it allows you to do things impossible on an Amiga without it. Machine code programmers will love it, being a very powerful debugging tool. But if you only want it to save games, it's an expensive way to improve your high scores.

THE Nordic Power cartridge is slightly smaller than the Action Replay one. The buttons are placed at the rear, making it slightly less easy to use, and the case falls apart quite easily to allow upgrade roms to be fitted at a later date.

This cartridge has a through port allowing further peripherals to be added. Whether they work or not is another matter. My A590 works with the cartridge plugged in, but refuses to autoboot.

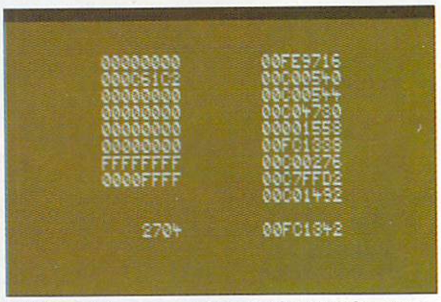
Once the cartridge is fitted and the Amiga is powered up, you have to press the freeze button once. This initialises the cartridge and re-boots your Amiga.

Now you can use your Amiga happily until you reach the point that you wish to employ the cartridge's services. Now you press the button again, which gives you a menu. At the bottom of the menu are the names of the programmers, M. Rom and Z. Nine. Demo fans may recognize these names as Major Rom and Zeronine from Quadlite.

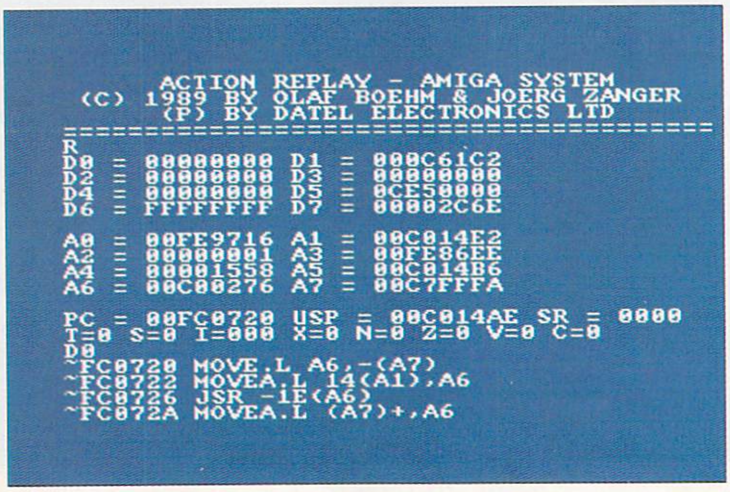
The display is lo-res and uses less than half of the screen, but at least it uses a small 6 point font allowing about 50 characters per line. It looks nicer than the Action Replay screen, but the restricted width makes it no easier to work with. Nordic Power has no lower case character set, either.

Most of the menu functions can be chosen with the function keys, making the cartridge very easy to use. My one complaint about the menus is putting the Exit Back To Program option on F7

➤



CPU registers according to the Nordic unit...



...and according to the Datel box of tricks

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	Action Replay	Nordic Power
Works on A500	★	★
Works on A1000	★	★
Works on B2000		soon
Through port		★
Slow motion device	★	★
Upradeable roms		★
Cartridge needed to re-load files		★
AmigaDos format disks		★
Full size screen	★	
Disk copy		★
Memory virus killer	★	
Cheat finder	★	★
Graphics ripper	★	★
Print screens		9 pin epson b&w only
Sound sample ripper		★
Assembler	★	★
Breakpoints	★	
Copper assembler and disassembler	★	
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Block copy memory	★	
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Save memory block	★	★
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Block fill	★	
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Hardware register edit		★
CIA (8520) edit	★	★
Calculation evaluator	★	

The Pros and Cons of hacking

Bad news for pirates

ALTHOUGH it would seem that these cartridges provide a very easy way to pirate games, it doesn't quite work like that. Firstly, most games load levels from disk and you will still need the original disk to play the game from a cartridge-saved copy.

Secondly, although the files that the Action Replay creates do not need the cartridge plugged in to run – because it saves all of memory out and restores all of memory in, including areas used by the system – loading it on a different machine, with a different Kickstart, different memory configuration or different number of drives, and so on, will promptly cause the Amiga to crash 99 per cent of the time.

Both cartridges are ideal for people playing a game who want to save their game position when there is no save-game option. Programmers will be delighted with the debugging facilities they offer. Would-be pirates will be disappointed.

➤ rather than a more logical key, like Escape or F10.

Saving memory is simple. You have the option of crunching the file or saving the whole of ram as one 512k long disk file, or two 512k files on two disks for 1 meg machines. The problem with saving crunched memory is that it will save *all* of memory, so if you only want to save 512k, you have to physically remove your extra ram.

The manual suggests cutting a track on your A501 and soldering a switch across it to disable the expansion, but this is hardly an acceptable solution for the average Amiga owner.

The Nordic Power graphics ripper is much more complex than the Action Replay one, and therefore is a lot more confusing for beginners.

It allows you to fiddle with such things as the individual bitplane pointers, the bitplane modulos and the ddfstart and dffstop values. It will usually guess the values you need, but I found it didn't work as well as Action Replay. One advantage the Nordic Power has is that it uses standard AmigaDos disks, so you don't have to mess around with a conversion utility.

Where Nordic Power really shines is in its sound ripper facility. It shows a graphical representation of memory, which you can output to the speaker as a sample. You can change the start and end positions and zoom in on the display until you get exactly the right length for the sample you wish to rip. Pressing S will save the sample to disk.

Like Action Replay, Nordic Power has a machine code monitor. I was disappointed with it though. Perhaps it's because I used the Action Replay cartridge first, but the Nordic Power monitor seems a very basic affair, offering a bare minimum of features and lacking some which I regard as essential, such as a block move.

None of this is helped by the manual, which is the victim of some nasty translation. For example: *"We call the actual screen that on the moment of pressing the freeze button the graphic"* and *"The Amiga musics exists from samples (samples means monsters)"*.

Some of the mistakes cannot be excused by translation and must be put down to brain failure: *"On Amiga text screens are called dual playfields."* What?!?

Nordic Power has a game trainer option, but unlike Action Replay it is totally automatic. It assumes you are losing one life at a time, and therefore cannot be used for other counters that may go up, like damage for instance.

When it finds the correct value it replaces it with 127, so you don't have infinite lives, just 127.

This is not a good way to train a game because some games crash if the life value is too high for the display – for example, if the game tries to draw 127 little spaceships at the top of the screen and runs out of space.

Overall, Nordic Power is a very useful unit. The use of AmigaDos format with the ability to format disks, catalogue and delete files, makes it easy to use. But it doesn't seem very reliable – if you hold the freeze button down too long it crashes.

Amiga Action Replay, £59.99, Datel Electronics, 0782 744707.

Nordic Power, £59.99, Data & Electronics, 0795 472727

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That figures!

Many small companies go broke each year because there is nobody to look after the time-consuming job of keeping proper accounts. Alex Aird looks at a package from Arena Technologies which aims to keep the small businessman on top of his job

HAVE you ever wondered why some people get to review certain products in *Amiga Computing?* Well, I run a little computer shop and while I was chatting with the Features Editor one day I happened to mention that I was doing my yearly accounts. Jeff asked what software I was using. I told him I didn't know of anything good and was doing them by hand.

Surprised by my reply, he sent me a newish accounting package, which shall remain nameless, and asked me to try it out. I played with it for about 15 minutes and sent it straight back.

A couple of days later Jeff sent another, Arena Accounts. "That's better," I said. "This is something I might be able to use."

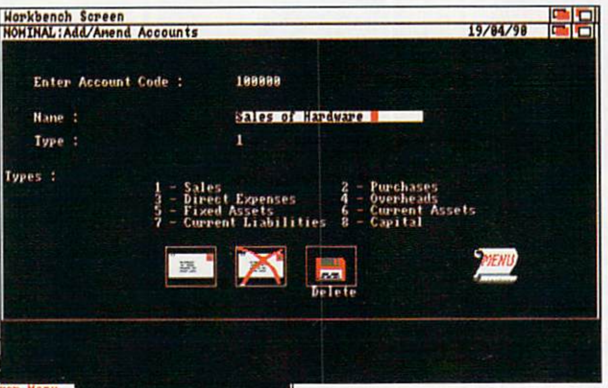
Arena Accounts is a full accounting package aimed at small to medium-sized businesses. It requires at least 1 meg of memory and, as usual with serious packages, two floppies or a hard drive makes life very much easier.

The software is not copy protected and even comes with a little program to copy itself to your hard disk – a big plus point for me as I use an A590. I hate programs which will not run from my hard drive.

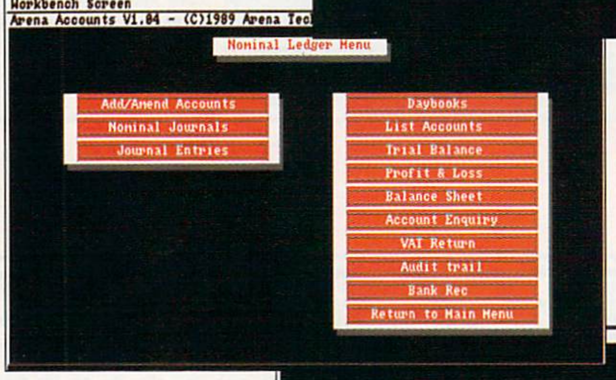
WHEN the program has loaded you are presented with a menu giving you access to the sales, purchase and nominal ledgers, plus a further option of sales invoicing.

The sales invoicing section allows you to create, print and post invoices into the accounts. Normally I would use a word processor to print out an invoice then add the invoice amount to the sales ledger. This program will add it to the ledger for me when I tell it to.

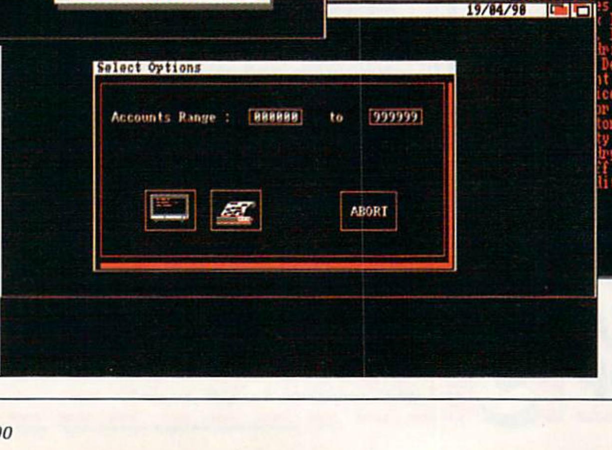
The nominal ledger, however, is the



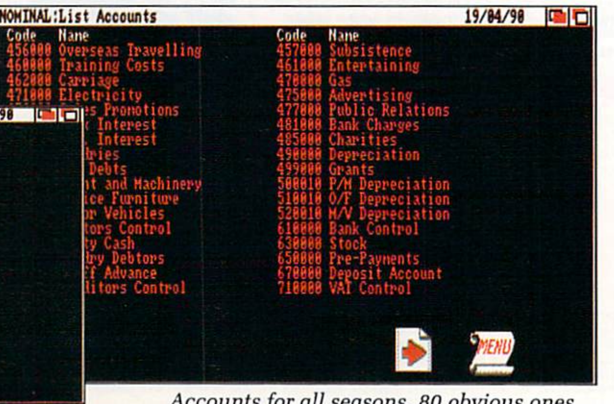
The Add/Amend module is where you set up the details for each of your accounts



The Nominal Ledger is where you'll probably spend most of your time.



With facilities for up to a million accounts, even the biggest of businesses should have room to spare



Accounts for all seasons, 80 obvious ones are provided to save your pinkies from wearing out

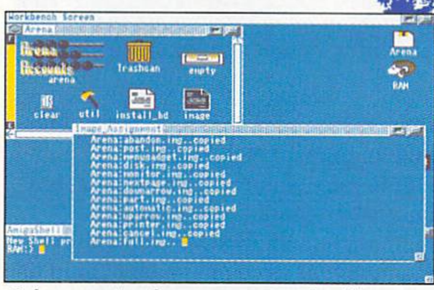
place to start. Here you have to add your own unique accounts to those already entered for you. With a computer shop we have classifications such as Sales of Software and, of course, Purchases of Software.

Altogether more than 80 separate accounts are entered into the system – things like stock, rent, rates, petrol and so on. There is provision for around a million separate accounts, which is more than enough for any business.

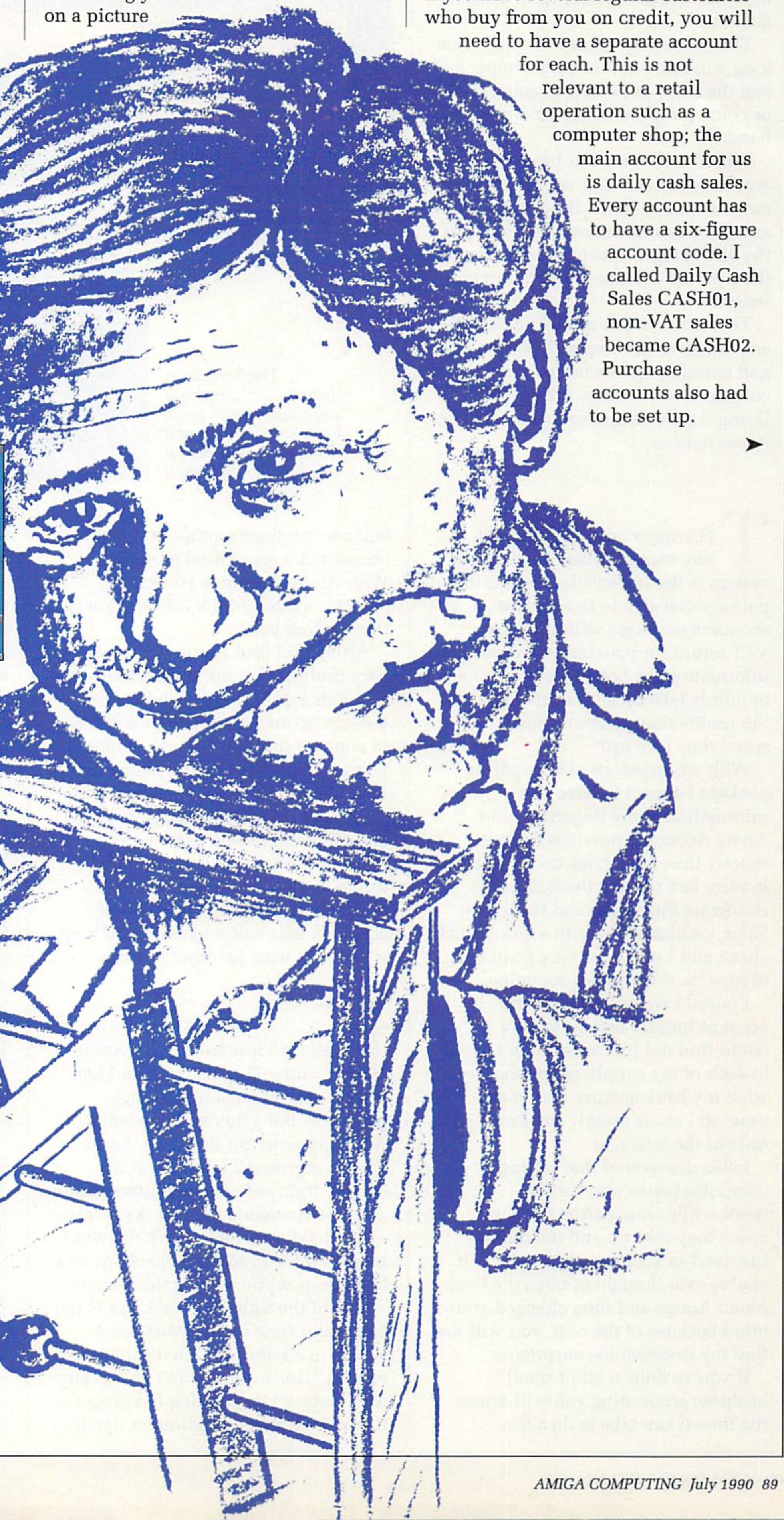
To enter the account classification you click on the Add/Amend Accounts box, enter the account code, account name and account type, then post the entry by clicking on a postcard icon.

All the icons are large and well chosen. If you want something sent to the screen you click on a picture of a monitor, to print something you click on a picture of a printer.

Next you need to set up the sales and purchase accounts. For example, if you have several regular customers who buy from you on credit, you will need to have a separate account for each. This is not relevant to a retail operation such as a computer shop; the main account for us is daily cash sales. Every account has to have a six-figure account code. I called Daily Cash Sales CASH01, non-VAT sales became CASH02. Purchase accounts also had to be set up. ➤



Before running the program, a script file must be executed to copy 20k or so of data to ram

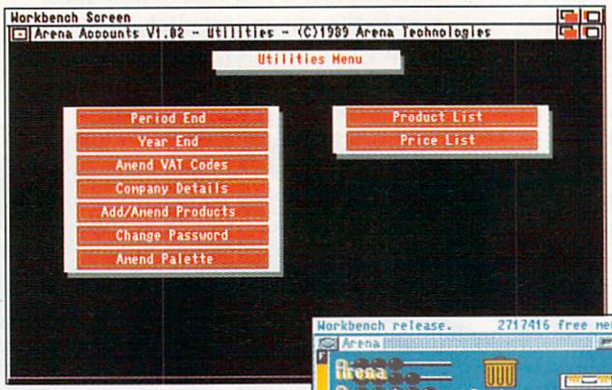


➤ Software Sellers became SOFT01; other accounts were set up in a similar fashion.

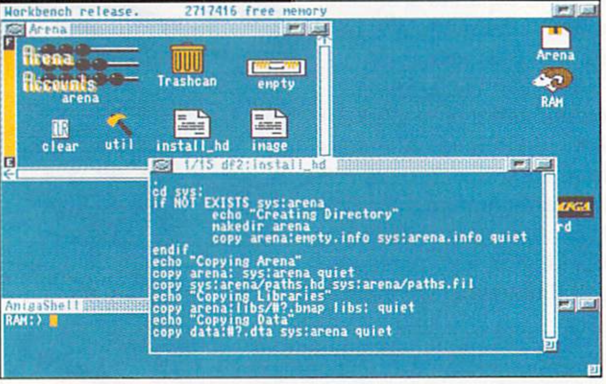
This setting up procedure may seem long winded, but it is quite simple and just the same as having separate books or columns when doing accounts by hand.

When everything has been set up you can start entering your data. Every day the money in the till is counted and the day's takings are entered into the sales ledger. Invoices that arrive in the post are entered into the purchase ledger.

This is the rather mundane part of any business, finding different books and entering figures in the correct column always seems a long job. Doing it on a computer seems to make it less tedious.



If you suddenly discover you've set something up incorrectly, the Utilities program is there to rescue you



The hard drive installation script will only copy the program to SYS: – if you want it somewhere else you'll have to do it yourself

THE major advantage though of any computerised accounting system is the information which the package can give to the user. Most accounts packages will print out a VAT return for you, but the more information the better. Computers and monitors take up a lot of space, so are the profits they generate worth the space they take up?

With a computerised accounting package I expect to have this information at my fingertips, and Arena Accounts provides me with exactly this. I can click on the account inquiry box and get the figures for Hardware Purchases and Hardware Sales, combine this with a quick stock check and I will get a very good idea of how hardware sales are going.

I found I was clicking on the account inquiry box quite a lot. I could find out just how much I owed to each of my suppliers and exactly what my bank balance was at any time, so I knew exactly the financial state of the business.

I also discovered that selling computer books was hardly worthwhile considering the shelf space they take up and the money involved in keeping a large stock. If you've ever thought of buying a book for an Amiga and then changed your mind because of the cost, you will not find my decision too surprising.

If you've done a bit of small business accounting you will know the time it can take to do a trial balance, produce a profit and loss account or a set of final accounts. With Arena Accounts you simply click on a box and the information is there before you.

Although I find Arena Accounts very useful, it cannot replace the accounts I do by hand. Firstly, you see, the taxman and vatman will have to approve the package – an important point to remember before changing over to computerised accounts.

Also, backing up data becomes more and more important, three or four copies of a disk is not overdoing things at all, it is merely being prudent. The loss of a disk full of accounts data can set you back a long way if you have no other records.

I CAN find few faults with Arena Accounts. The first version I had (v1.02) caused me a few strange problems, but a quick phone call to Arena Systems got me v1.04. I am always impressed by this sort of backup from software manufactures.

Arena Accounts multi-tasks nicely – but slowly – with Protext, the word processor I use, so I can check up on a few things while writing this review.

One of the things I do not like is the fact that it runs on the Workbench screen in a window which cannot be resized. This means I can't access any disk icons while running the program. It could do with an option for opening on its own screen for those users who have the available memory.

This gripe apart, Arena Accounts is a useful program for any small business to own. By the time you read this review, a tweeked v1.05 should be available, which will include a delivery note option in the invoicing module.

REPORT CARD

Arena Accounts (v1.04)
Arena Technologies Ltd 0724 280222
£149.95 + vat

EASE OF USE..
Marks dropped for the utilities section being a separate program, and for hijacking the workbench screen.

SPEED..............
Ok unless you want to multi-task, when the screen refresh rate begins to resemble that of an Amiga Basic program. Fast enough for the job.

VALUE ....
An good accountant will cost you about £250 a year. Use this program once instead, and you've got your money back.

OVERALL 82%

The best accounting package I've used on the Amiga so far.

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You can also rely on the correct date and time at any moment in Amiga and MS DOS mode (with the aid of a battery pack).

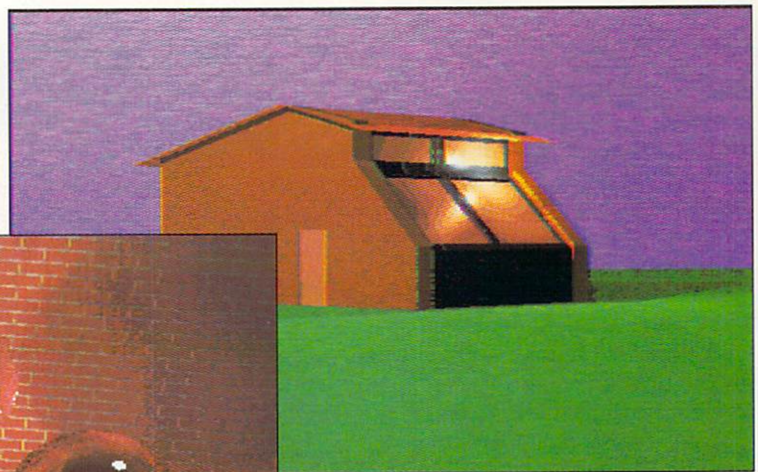
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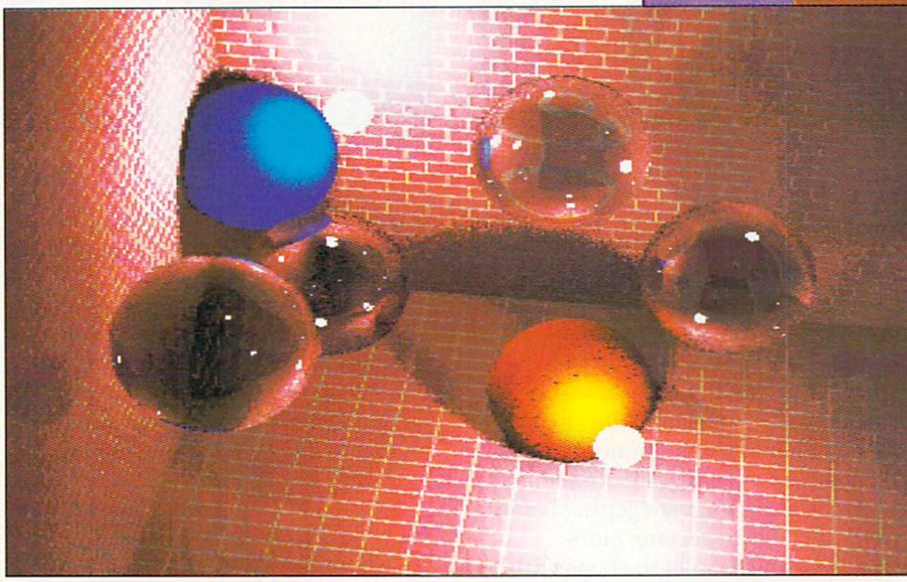
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Ray trace yourself a new home with A-Render



Textures such as glass may be incorporated into the images

Ray tracing has always been the Amiga's strong point. The combination of a large colour palette, good processor power and low hardware cost has brought the science out of the university and into the home. Stewart C. Russell puts two public domain packages to the test



WRITING a program as complex as a ray tracer is difficult enough; writing one which runs at any kind of speed takes a large investment of time and money.

The upshot is that there are no freeware ray tracers. But there are a couple of shareware ones, and they are remarkably inexpensive for what they offer.

Both systems are capable of good results, but without the polished user interfaces of Sculpt or Silver. Both require use of the CLI, and one of them needs a large amount of mental calculation beforehand.

A-Render, which lives on Fish Disk #99, is the easier system to use. It fills the disc with a slideshow of very reasonable ray traced pictures. The documentation is extremely comprehensive, reading more like a technical paper, complete with introduction, appendices and bibliography.

But it doesn't quite work on a Kickstart 1.3 machine, which the majority of Amigas are by now. (If the switch-on Hand Screen says 1.3, you've got Kickstart 1.3.) This is unfortunate, because the actual rendering routine works fine on all machines, as do most of the object definition tools. However, one very necessary program gurus out straight away. So don't say I didn't warn you.

Installing A-Render would be very difficult but for the script files provided for every possible Amiga setup. Once A-Render is installed, which can take anything up to half-an-hour on a single drive system, you're ready to follow the tutorial.

This as well thought out as the rest of the package. The aim is to create a HAM picture of a heart with an arrow through it. I know it sounds tacky, but it just happens to use all the programs in the A-Render suite in its creation.

Not merely does the author include all files created by the tutorial session, ➤

➤ he also provides the final rendered picture, so if you can't quite get the program to work, at least you'll be able to see what the results should be like. It also means that Kickstart 1.3 owners can have *some* fun with the program.

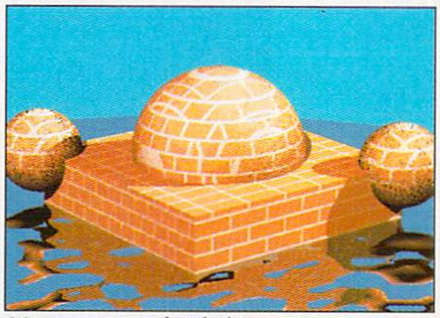
A-Render, like all ray tracing programs, defines a set of physical objects in a three-dimensional space and works out how they are affected by the lighting conditions.

Objects can be built up from polygons using a digitiser program, each point (or digitise) being a vertex of the polygon.

Alternatively, if you plan to use solids of revolution, which doesn't mean sticks and half-bricks, you can build objects on a lathe. This lathe is a program, as opposed to a real engine lathe. Would you want to clean swarf out from under the keyboard?

You can vary the speed of the render by changing the resolution. Normal (maximum) resolution is 320 x 200 HAM, which can take a couple of days to render if you're close to the maximum eight objects.

Halving the resolution quarters the generation time, but the picture begins to look very blocky. Any further reduction in resolution is only useful for quick test renders to see if your

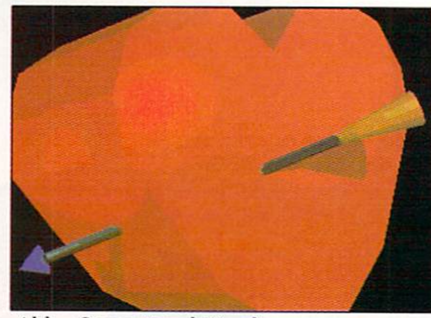


More textures – brick this time

objects are visible. Many's the time I've started a ray trace only to realise that most of the objects are off the screen. But we won't dwell on that.

A-Render produces good, if simple, results. They're not on a par with Sculpt or Silver, but this package is far less sophisticated – and a lot cheaper – than either of those. Rumours about A-Render now having mutated into a commercial product are getting louder every day. It may become more expensive, but at least the bugs will have been ironed flat.

WHERE A-Render tries to be helpful, DBW_Render on Faug Disk #42, doesn't. User interface-wise it has the interactivity of a



Ahh...Stewart and Wendy

cornered bear. On the user-hostility front it's like ordering a Chateaubriand at a Vegan takeaway.

In order to get yourself a rendered scene you have to plan out where all the objects are, define them in three dimensions relative to a fixed origin, work out what textures you want the objects to have, and then work out the lighting.

Once you've done that, you load up your favourite text line editor (just to maintain the mainframe-ish atmosphere) and key in all the lovely data using a cryptic command set. You then decide how long you want the program to spend on the calculation, set everything going, and wait while a lot of full stops fill up your CLI window.

Several hours and many gallons of

Now you can C better

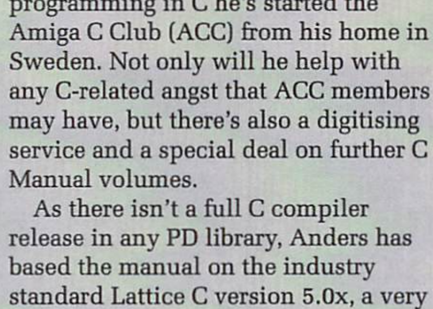
IT is rare to find a book in a public domain collection, but that's exactly what Fish Disk #337 is. Aha, says you, the man's finally cracked under the strain of leafing through innumerable PD catalogues and has started to imagine hardbacks among the double-sideds.

Not so, says I. Anders Bjerin's C Manual is about 200 pages long, and just happens to have executables of all the example listings. Using the magic of file compression, three discs full of data have been packed down on to that single disc.

Anders is a deeply generous type. Not merely has he written some very fine PD games, some of which have been featured on our cover discs, but he's got a mission to get the whole world programming in C. All his games are written in C, and they all multi-task in the way that good programs should.

In order to get more people programming in C he's started the Amiga C Club (ACC) from his home in Sweden. Not only will he help with any C-related angst that ACC members may have, but there's also a digitising service and a special deal on further C Manual volumes.

As there isn't a full C compiler release in any PD library, Anders has based the manual on the industry standard Lattice C version 5.0x, a very expensive but generally fun-to-be-with compiler, if such a thing exists.



Everyone's favourite bitmapped image

The C Manual isn't designed to be a tutorial for absolute beginners, but the very large introductory chapter gives a whistle stop tour around the more difficult points of C data types and has a good section on getting Lattice C to spit out exactly what you want it to, or at least a fair approximation.

As the Lattice documentation is so huge, this is a welcome condensation for those who still think that braces are things that look rather fetching in a Paisley pattern.

Version 1.00 of the manual covers Screens, Windows, Graphics (Border, Text and Image structures), Gadgets, Requesters, Alerts, Menus, IDCMP and Sprites. In order to be able to use all these system functions, you have to know about memory allocation, linked list manipulation, and various other bits of vital information – the manual introduces these topics very neatly at exactly the right time you need to know about them.

coffee later, you buzz your way back Amigawards to see what's going down.

If you're lucky, you get a massive data file containing RGB information. If you're not, you get a mouthful of red guru. Boot it up and start again...

Once you've got your RGB file you need to post-process it to create an IFF image. This can be from 320 x 400 interlaced HAM down to lo-res 32 colours. If you've set the render time low (an hour) you'll get a very odd picture indeed – small patches of detail connected by rectangular splats of colour. This is due to DBW_Render's technique of guessing the colour of a pixel before it calculates it. The more time you leave for the calculation, the better the picture.

THE documentation is good solid stuff, a description of command line arguments and data file structure. It's hardly bedtime reading, though. Full source of the package is included, so if you feel the urge to convert the program to run on an Iris 4D workstation or a ZX Spectrum, you can give it the old college try.

There are the obligatory example pictures of very high quality, and example files to get you started. You'll need them.

DBW_Render's results are quite astonishing. It produces good results more quickly than A-Render and handles surface textures, like marble, glass and brick, as well as any ray tracing package on the market.

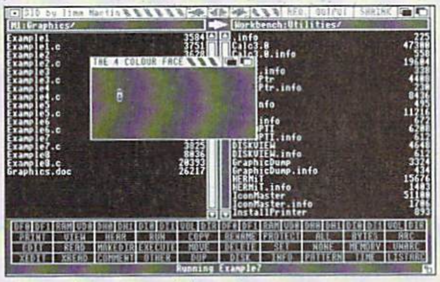
It has functions which aren't available on any other package – damped waveforms on a surface, such as ripples in water or a fractal rock face. The image can be defocused towards the edges to give more realism and various anti-aliasing filters can be applied at calculation time.

But all these wonderful things make the rendering go more slowly than a rush hour tube train. For people who've never been on the tube, imagine slow, then half that.

DBW_Render has been upgraded to v2 and is now a commercial product masquerading as the brains behind Synthetic Reality's World 3D, a package unavailable in the UK at time of writing. The original minimum registration fee was $10 US, which does not entitle the user to upgrades.

If you're at all interested in ray tracing, and you can handle sums and user-unfriendliness, DBW_Render v1 on Faug Disk #42 is highly recommended.

The format of each chapter of the Amiga C Manual, to give it its full title, is one long explanatory file on a topic and then a large number of examples in both source and executable form. All the examples are complete, unlike the code fragments in the Technical Reference Manuals, and are documented to such a heavy degree that even people who can't C should be able to understand what is going on.



A wee bitmapped face in a medium-sized window: just one of Anders' many example programs

Also included in the distribution, but not really part of the Amiga C Manual itself, is Anders' FileWindow program. This is a completely public domain file requester. Charlie Heath's ARP one has a few restrictions on its use; FileWindow may be slightly simpler, but it is fully documented and comes complete with header and object files. It also works well on lo-res screens, something I know a lot of people cannot get the ARP requester to do.

The Amiga C Manual isn't the end of your C problems, you'll still need to find the cash for Lattice C version 5.04, a snip at around £170. But what it may manage to do is get you feeling more confident about C programming. It may even ward off the fateful day that you need to buy a volume or three of the Amiga Technical Reference series.

Anders plans to upgrade and update the manual frequently, at reduced cost to members of the Amiga C Club. The shareware fee of £15 includes membership of the Amiga C Club. Updates to the manual cost a fiver. For that kind of money, it's a bargain.

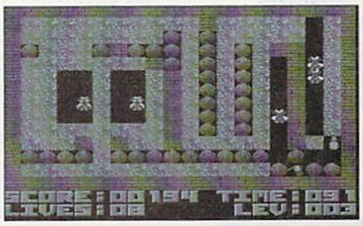
You can write to Anders Bjerin at *Tulevagen 22, 181 41 Lidingo, Sweden.*

GAME OF THE MONTH

FLASCHBIER

ORIGINALITY is what it's all about on the games scene. Flaschbier is a game, and it's not original in the slightest. So how come I, a well known games reviewer (cough), like this game so much?

People with long memories may remember an Ariolasoft game on the C64 and CPC called Werner. It was all about a chap called Werner and his mostly futile attempts to get a crate of beer to a party.



In Flaschbier, everyone's favourite lager-lout has discovered that his beer supply has been scattered over a wide and somewhat hazardous area. There's earth to dig out, rocks to avoid, and, worst of all, hordes of Riot Police, all trying to stop Big Wern getting his beer.

The one consolation is that there are well over 250 bottles to collect. But there's only one bottle of beer per level, so it is not going to be easy.

Does this sound suspiciously like a Boulderdash clone? You can safely betcha life, betcha Sweet Bippy, or just betcha Mel Sauce on that one.

Unlike the original, Flaschbier confines all the action to a single screen rather than scrolling about. This makes the puzzles that bit smaller and neater, and is several orders of magnitude easier to program.

It's a great little game – fast, noisy, slightly hackish and very cheap, because it appears to be freeware. The instructions are in German, though that won't be much of a problem as you already know how to play this sort of game anyway.

Flaschbier takes up all of UGA Game Disk #2 and would be a passable game at the £25 level. It's a fabulous game for 25 florins. And don't tell me you don't know what a florin is.

Pdom PD Amiga Software Pdom PD Amiga Software



Graphics

AMP1: Home Business Pack, RIM the relational database and HyperBase database, UEdit the word processor which includes builtin help and tutorials, spell checkers, and VisiCalc the excellent spreadsheet. All auto loading.
A 3 disk pack for only £7.50!

AMP3 Graphics Pack 1 – Amiga MCAD excellent CAD package, VDraw brilliant painting program, Ray Tracer Generator, An object–orientated drawing package, IFF to pieces jigsaw program, ROT 3D drawing program. Loads of utilities.
A 3 disk pack for only £7.50!

AMP21 Graphics Pack 2 – Mandelbrot Explorer, DBW Render a Ray Tracing utility, ST2IFF picture converter, HAM2IFF picture converter.
Excellent value!
A 3 disk pack for only £7.50.

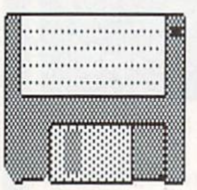


Application

Games

APDC 15 – Icon utilities: full of icon files and creators.

AMICUS 22 – Printer Driver Generator V2.3.



Utility

Pdom ClipIt! Vol1 5 disks full of clip art all in .IFF format. 3Mb of clip art.
5 disks for only £15.00!.

FFISH 158 – DiskX SectorEdit, MSDOS Reads MSDOS or ST format into RAM:.

FFISH 243 – No Click stops the disk drive clicking if no disk present. Pass Word you specify the password for your system security. Pcopy V2.0 the excellent disk copier.

APDC 18 – Floppy Disk Utils: Quick Copy, Disk Mapper, Disk Salvage, Virus Check, System Utils: Blitz text editor, TimeSet, ACalc a calculator, Amiga Monitor, MeM Grab fast memory grabber. DirectoryMaster. A must get disk for your Amiga P.D. collection! Excellent.

FFISH 244 – Boot Intro you specify The headline text of upto 44 characters and the scrolling text of upto 300.

FAUG 41 – Amiga Arc V0.2 compatible with ARC V5.0.

PDOM93 – ARP V1.3 Amiga DOS Replacement Project.

FFISH 58 – ASDG a RAM disk that survives reset, Big View displays any size IFF picture, EGraph creates graphs from X,Y pair text files. NewZap disk sector editor.

FFISH 188 – Boot Intro V1.0 displays a scrolling and a still message of your choice at boot up.

FAUG 50 – Dir Util VI the disk manager.

PDOM 59 Ameteur Radio Disk: disk full of HAM utilities.

FFISH 157 – XIcon V2.01 allows you to call up scripts containing CLI commands from an icon.

AMP8 – Games Pack 1 – Cluedo, Klondike, Canfield, Cribbge, Backgammon, Yahzee, Missle Command, 3D Breakout, Empire, Gravity Wars, Hanoi, Hockey, Jackland, Othello Master, Pac-man, plus loads of other brilliant games.
Amazing value!
A 3 disk pack £7.50!

AMP22 – Games Pack 2 Escape from Jovi V3, Monopoly, Amoeba Space Invaders, Cosmo Roids, StoneAge, Back Gammon, Mastermind, Reversi, Black Jack, YachtC, Daleks plus loads of other brilliant games.
Amazing Value!
3 disks for £7.50!



Demos

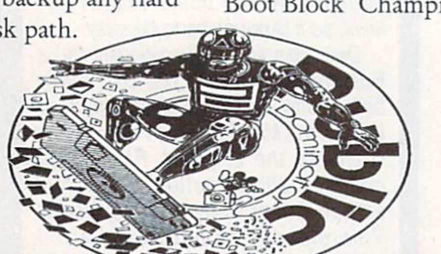
FFISH253 – Elements a display of the periodic table.

FFISH258 BACKUP allows you to backup any hard disk path.

PDOM 62 – The Public Dominator Anti Virus Disk: Virus X V4.0, VCheck V1.2 (for memory), VCheck V1.9 (for disk drives), Zero Virus V1.3 the fully integrated virus detector and killer. Also Boot Block Champion the utility.

PDOM 86 – The Memory Expansions demo No1.

PDOM 87 – The Memory Expansions demo 2. Both Require 1MB RAM.



PDOM 65 and 66 – Red Sector Mega Demo. THE best demo on the Amiga! A 2 disk demo with the best sounds and graphics! A must!

PDOM 73, 74 and 76: The Star Trek Dry Dock Demo, Starship Enterprise demo and the Star Trek Shuttle demo. Amazing graphics.

PDOM 83 – Space ACE Demo an excellent demo of the game with fabulous animation and incredible sampled sounds!

PDOM90 – Tennis! excellent tennis action game, fully working.

PDOM79, 80 + 81 the StarTrek game! Abrilliant three disk graphics game! Requires 1MB RAM.

Access VISA

Most of the disks in this advert actually contain more than is listed, for full details of all the disks, send for our disk catalogue, which costs only 70p fully inclusive! and allows fast and easy searching for items!

PD Disk Prices: 1 to 5 disks are £3.00 each, 6 to 10 disks are £2.75 each and 11 or more disks are £2.50 each!
Blank disks : 10–£7.00, 50–£33.00.
Disk cleaning kits – £2.50.

All prices are fully inclusive. To order please send a cheque or postal order payable to Pdom PD Amiga or Access & Visa credit card details to:
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P O Box 801
Bishop's Stortford,
Hertfordshire, CM23 3TZ.
Telephone 0279 757692.

Registering gives more than just a warm glow

IT'S satisfying to hear from a shareware author thanking you for your hard earned cash. It's deeply satisfying getting the newest version arriving on your doormat. But in the awesomely wonderful satisfaction league, there is little to compare with the delivery of software available *only* to those who have registered.

The system works like this. You get a program, downloaded from a BBS or from a library disc. You see in the documentation "... Version X is only available to registered users ..." followed by some blatant sales pitch about how much more ozone-friendly the new version is.

After using the software for a while, you get to like it, but feel there are a few limitations – bugs, missing features or physical limitations compiled into the program to encourage registration.

You send off your money and before you know it, assuming you have a reaction time of around eight weeks, the new version arrives containing a dire warning that you must not distribute this software on pain of being prodded in the navel several times, or worse.

As an example of how mind-alteringly fantastic it can be, I'll take two examples of registered-user software.

QED is a compact text editor. Nothing wonderful about that, you say. It is fast; global search/replace in a 2,000 line file is completed in under three seconds. That's 10 times the speed of the unslothful Protext.

The blitter renders the text directly to give super-speedy scrolling. QED can have as many editing buffers as you want and can cut-and-paste text between them. It has rudimentary formatting and printing capabilities, so it could be used as a budget word processor.

As found on Fish Disk C019, QED can only save files up to 10,000 characters long. Once you register, the author – Darren Greenwald of Santa Ana, California – sends the latest version, which has no file limitations, full documentation on its command language and ARexx capabilities (three syllables, pronounced A Rex X).

With the addition of ARexx, a macro language capable of inter-task communication and control, QED becomes capable of driving a whole host of applications such as comms programs, compilers and databases. Neat, or what?

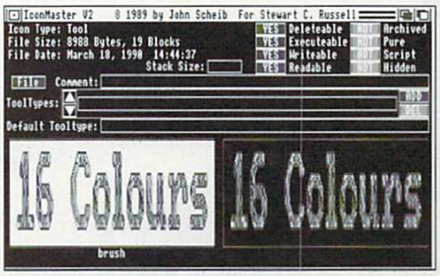
Considering the pukka QED costs around £13 ($20) to register, you'd be crazy not to. And I'm not on a percentage to say that.

My second example of shareware worth registering is Iconmaster, which was on the October 1989 cover disc.

When it comes to icons, there's IconMaster and nothing else. It does everything you could want. And that's just version one. Version two, which costs $25 from John Scheib in Las Vegas, gives loads of extra colours.

You want a 16 colour workbench? No problem, IconMaster 2 can edit in up to 16 colours and a tiny utility on the disc can add the necessary bitplanes to workbench.

A 16 colour workbench is very pretty,



but it eats memory and system performance. You want speed, then? How about a two colour workbench? Guaranteed to go flat out and use very little ram, but look only slightly more interesting than a PZzzzzz... Sorry, meant PC.

If your workbench is looking a little dull, IconMaster 2 will banish the blues. Not to mention the oranges, blacks and whites.

So there you go. Don't be suspicious all your life. Come out of the cupboard and have some fun with registered-user software.

MessyDos – faster than CrossDos, and free

THE Amiga, you'll be surprised to learn, isn't the only machine to use 3.5in discs. A certain machine called a PC from a hicksville outfit called IBM can use them too. Unfortunately IBM didn't have the foresight to use the advanced data format that the Amiga uses, and the systems are incompatible.

For some strange reason a lot of people wish to transfer data from this PC thing to the Amiga. There are plenty of commercial programs to do this. But apart from a few demos of commercial products, the shareware scene is devoid of anything along these lines.

Predictably enough, MessyDos fills this gap. It's a whole new file system and device driver to read and write double sided PC 720k 3.5in floppies in any standard Amiga drive.

Despite its powerful features, it is not that difficult to install. Anyone who knows which end of a CLI to hold should be OK.

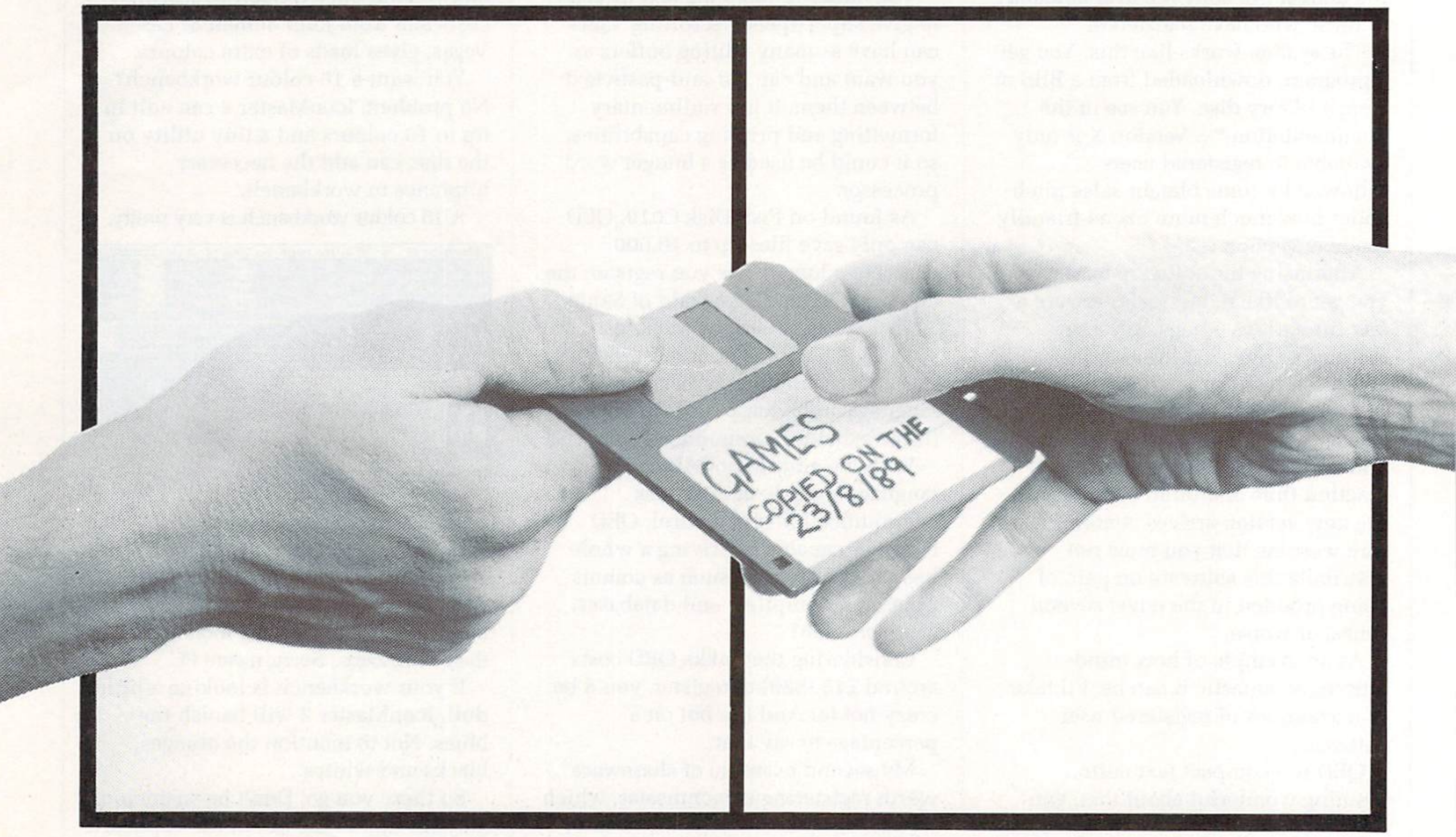
MessyDos allows most of the things that the commercial product CrossDos can, but cannot read or write Atari ST discs or the very rare single sided 360k 3.5in floppy. It's very fast, roughly twice the speed of CrossDos, and seems to be reliable.

There are a few "features" which are a bit annoying, but none endanger the data on your discs. For instance it throws up an error when you put an Amiga disc in the drive where MessyDos is expecting a PC one. Cancel the requester and the drive becomes a standard AmigaDos one again. I've been using it a lot for the last few weeks and it hasn't failed me yet.

A lot of machines support the 720k PC format; they can be used as normal on an Atari ST and the newer Apple Macs, capable of using 1.44 megabyte discs, can access them as well. So if you have an Amiga, MessyDos and another (lesser) machine, you can probably exchange data easily.

MessyDos (aka MSH) lives on Fish Disk #327. It's shareware, but Olaf Seibert (he who did the deed) didn't bother to specify how much he wants. That doesn't mean that you don't bother to pay him, OK?

WARNING



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PIRACY IS THEFT

HOW TO DTP

Nic Veitch begins a series which will show that any Amiga owner can be capable of professional quality graphic design

WHY bother? What is the big idea behind DTP anyway? Well, after long years of being fettered by the whims of others, the desk-bound executive is now free to make his own mistakes. In these electronically enlightened times one man can become a publishing company. Creativity unleashed, without having to know the secret handshakes of the print room boys.

Therein lies the problem. People who belong entirely to the group not in possession of a clue are traipsing their ideas through forestfuls of virgin paper, with results resembling the off-cuts from other less noble forms of DIY.

Before I start a long diatribe of invective over the wheres, whys and et ceteras of DTP, I would like you to open your mind to one concept: There are no rules, only guidelines.

The process of DTP, from writing the words through layout design to printing is just that – a process. It is not an event. It is never "done", it evolves. And it does so because there are no hard and fast rules set in stone. Nor in hot metal, for that matter.

If it were as easy as merely obeying commands, we could all do it, or mechanise it, and I wouldn't be sat here writing about it.

SO you have a load of text and you're ready to start some serious desktop publishing, right? Sorry, not. Mistake numero uno. I have one word to say to you: Planning. That is what it's all about, make no mistake. Writing

➤

Templates

A DTP package without templates isn't an application, it's a waste of money. Page templates are exceptionally handy when designing things which are likely to be more than a one-off or has multiple pages which are similar in design.

If your package doesn't come with templates, you can make your own. It's simple really. Just keep a saved page which has been laid out but has no text in it. You still have to do all the pixel-perfect calculations once, but at least if you get them wrong they will be consistently wrong. And consistency is very important.

Borders



BORDERS help decide what the jargonists call the colour and emotional tone of the publication. It doesn't matter if you draw them in or not, borders are still perceived by the eye between the body text, around the edges of the paper, and between columns of text.

Tangible borders can be drawn using the DTP package's line or box function. If you want a very thick border, try using four filled boxes around the edges. Remember, borders don't need to go all the way around the text. Often borders appear just top and bottom or on one side only to provide a margin for comments.

Be careful though. Natural borders can be created by illustrations on the edge of the body text. In most cases this makes an assumed border, one which the reader perceives but does not exist physically, so no further mucking around is necessary.

Aha, that reminds me of the second golden rule, I mean *guideline*, here at Amiga Computing Towers: If something is unnecessary, why put it in? Less is more.

the text becomes part of the equation. Length, angle, style... these are the basic ingredients from which the greater glory of your publication is formed. Forget them not.

Take the example of this article. I am only about 300 words in but I already know it has to make four pages, that there are going to be more than a couple of diagrams, that I'm going to need about another 1,700 words.

I know what sort of person is going to be reading it, I know what they are expecting to see in it and I know exactly how they are used to seeing this subject presented. I have even given thought to the title – its shape, what it may look like, where it will go. Not much I admit, but as the article begins to take shape I will still be thinking of these things, and thinking about them will effect what I am writing.

These thoughts should be going through your head long before you boot up Pro Page or whatever. Identify your reader.

The purpose of all this planning is to trap the reader into your article without them knowing it. To entice, to promise and then to deliver. The design of the pages should guide the reader easily and naturally through it. Remember, half the battle is attracting their attention. Don't let them get away.

Use all the tools at your disposal, the tools of graphic design. Don't think you can't do it because you haven't got the training. Every one of us who has ever read a book, a magazine or even the adverts in the Underground knows all about graphic design.

The tools I have outlined here are the meccano of any publication. Study this magazine. Study other magazines. See how their style develops from simple graphic design techniques. Play around with your DTP package and see what you can come up with. Remember there is nothing you don't know about graphic design. Like background radiation, you've been exposed to it since birth. It's bound to have had some impression.

● ***NEXT MONTH: Use your newly discovered graphical design knowledge and skills to enhance the communicating potential of your publication.***

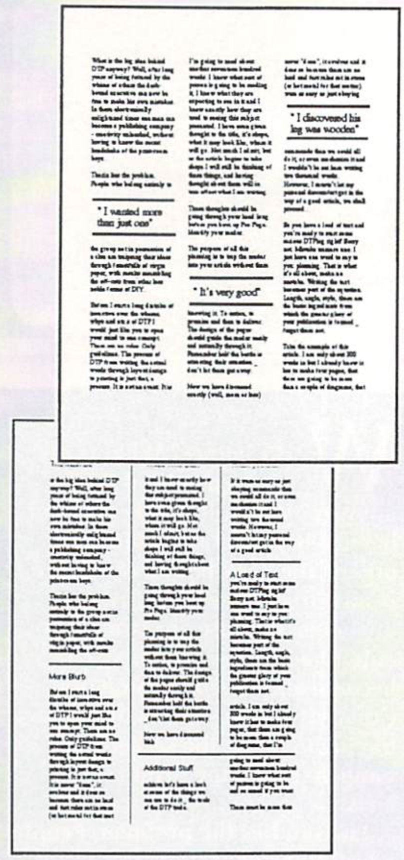
Keylines

KEYLINES, also known as rules, are like miniature borders within the text. Used vertically they can unite or separate columns. Used horizontally they can be used to give emphasis to headings, to separate different subjects in the same column or for pull-quotes.

A pull-quote is a quote from the text pulled out, set larger and usually in bold. Horizontal rules provide a contrast against the grey of the text and the white space surrounding the quote. See the example to find out just how eye-catching they can be.

The weight of the keyline should complement the colour of the publication. Thick rules are set off better when surrounded by white- space, whereas thin rules are more appropriate for pages containing a lot of copy.

Most DTP packages support line drawing. Simply adjust the weight of the line to your needs. A snap-to-grid option will be useful to get a straight line, but anyone who has practised with any sort of computer art package will soon get an eye for it.



Subheads



SUBHEADS are used to break up the body copy into nice manageable pieces. They also improve appearance and enhance appeal by providing a nice spot of contrast just when the old eyeballs are getting tired.

From an organisational point of view they make it a lot easier for the reader to find the bit he wants quickly.

There are a lot of techniques for drawing attention to subheads. Apart from the ones already discussed for headlines – though on a smaller scale – there are a few more tricks in the armoury.

Changing the justification – left, right or centred – can provide good contrast with the main text without being so obtrusive as to demand the reader's attention.

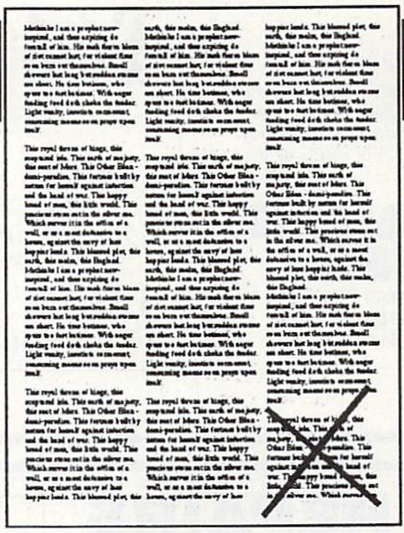
One of the most obvious ways of isolating a subhead from the text is by using a vertical rule to create a margin. Subheads can then go in the left margin where they don't obstruct the flow of the text. This is only really viable where all text is running in one column, like in textbooks and manuals. It is, of course, a bit of a waste of space as well, which is a decided advantage if you happen to be writing a manual or a textbook. Makes it bigger. Better value for money.

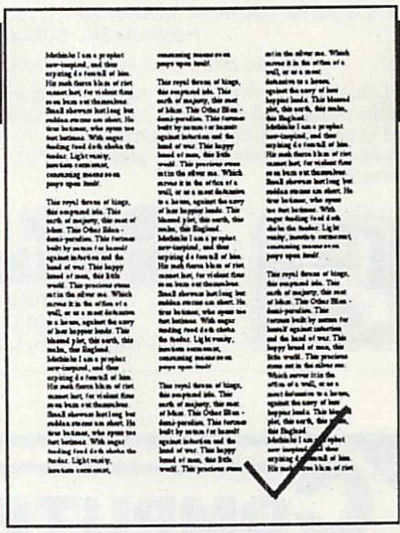
Margins and columns

MARGINS are one of the simplest but most effective way of controlling the overall tone of the page. White space between the physical edges of the paper and the "live area" gives breathing room. Don't ever get the idea that any part of the page that doesn't have text or an illustration in it isn't doing anything. It's working hard to make the rest of the page legible.

This philosophy stretches to the space left between columns, which apparently now comes under the general term of a gutter. Space between columns is arguably more important than margins.

If two columns are placed too close together it becomes impossible for the reader to perceive the boundary of the first, especially if they are set ragged-right. This makes it a pain to read and in all likelihood the reader will give up after a couple of lines.





Column width is just as important as margins, and for almost the same reasons. If columns are too wide the eye has further to scan back for the beginning of the next line. This isn't so bad when the point size is large because the scanning angle is greater, but small type in wide columns is a horror, legibility-wise.

Boxes

BOXES are another tool used to emphasise and isolate information. This is usually employed when there is some copy both relevant and important to the main copy but which does not flow from it. Which is why what you are reading now is in a box.

They can also be used for send-off coupons and anything else that is likely to be cut out from a publication, like competition entries, response forms or tokens.

Most DTP packages will allow you to draw a box with a dashed or dotted line for this purpose.

Headers and footers

HEADERS and footers are a useful way of discretely imparting information to the reader. Headers should reinforce the identity of the publication, let the reader know where exactly he is just in case he has forgotten.

Headers or footers are the habitual location for the page number, if you decide you're having one.

Symbols

SYMBOLS are used to group together a number of items which are related without having to go to the trouble or space of writing all that tiresome filling copy.

Asterisks and bullets are commonly used for this purpose. Bullets can be anything from a blob to a relevant icon.

Numbers can be used when itemising a list of points in order of importance for example, or a list of instructions.

Headlines

HEADLINES are the most simple text organiser ever. Everybody knows what they are, where they go and what they do. They are also difficult to write because they have to be accurate, concise, more or less grammatically correct, and they even have to be the right shape. But the most important thing about any headline is that it should be easily distinguished from body copy.

There are a number of ways to do this, the most common of which are to set the headline in a bigger point size, in bold and usually in a completely different font. It is common practice when doing this to use a complimentary font – if the body text is serif the headline should be sans-serif, and vice-versa.

Glossary

Copy: a general term used to describe text.

Gutter: formerly this used to mean the space in the centre between two adjacent bound pages, but now also refers to the space between adjacent columns.

Justification: the way text is arranged in a column, either flush with the left and/or right sides, or centred.

Point size: type is measured in units called points. There are approximately 72 points to the inch. This topic will be discussed in more detail next month.

Sans-serif: a class of typeface without serifs (see below).

Serif: a large family of typefaces categorised by tiny decorations, which add character to the letters and help guide the readers eye from letter to letter. This text is set in a serif typeface.

Typeface: refers to the style and shape of characters. The nearest publishing equivalent to a font. Typefaces will be discussed in greater detail next month.

Weight: roughly the thickness of a line or character. Bold is a heavier weight that *italic*, for example. The weight of lines is usually measured in points.

We come in peace, shoot to kill

SURPRISING as it may seem, the Amiga has never really attracted its fair share of light guns. It's doubly surprising because (a) the Amiga hardware directly supports such a device, and (b) it has a good – perhaps too good – reputation for games.

Have manufacturers have thought Amiga owners too pacifist? Too mellow? Not any more, for US Action (081-568-8297) has decided that Amiga owners have been unarmed for too long and have given us a complete light gun and software package.

The gun itself is a real handful of black pistol. It appears to have been adapted from a toy battery-operated unit, and still contains an (unused) miniature loudspeaker. DIY fiends will have great fun wiring this up for their own devices. The important part is half way up the short barrel. It's a lens which focuses light on to a photosensitive diode.

Thanks to the miracle of Amiga technology, the pen connects directly to the joystick port via a short cable to sort the order of the wires. No interfaces, no set-up procedures. Results depended at lot on the monitor used and angle at which the gun was pointed at the screen. With a bit of experimentation, the gun was accurate to within a few centimetres. Just plug in and blast. Ahem.

Now you know me, I'm not one for gratuitous violence. That's why I was particularly pleased to see that the games provided with the gun where not just simple gratuitous shoot-'em-ups.

Instead, the gun is being used as a legitimate input device. Now the cosmic laser pistol can rate along with keyboards, trackerballs and mice as simply ways of getting information into the computer. So it's shaped like a dangerous weapon. Would it be better if it was shaped like a rubber duck? Tricky philosophical questions such as these are better explored in other forums.

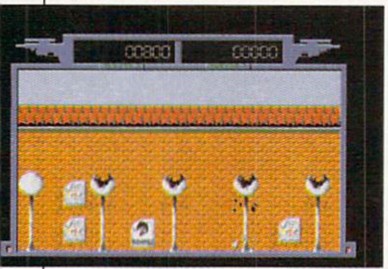
The first game is called Gateway to Ypsilon and is a nicely put together three dimensional scroller. Not only do you have to zap any objects that get in your craft's way, but you have to steer it as well.

In the second game the gun in its more traditional form. Master of the Town urges you to play the part of of an urchin who has a strong dislike of street lamps. So strong in fact, that he must shoot as many as possible before the police arrive. It's a circus sideshow type of game with a bit of "Rebel without a cause.

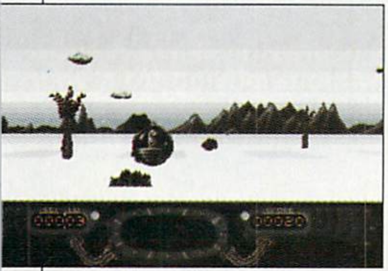
In terms of value for money, £49.95 will get you the gun and the two games. The games are quite simple, and would probably come into the budget-priced side of things. This means you are paying about 40 quid for the gun. Short intake of breath.

Hopefully with the Amiga's standard hardware and the better than average results, software writers will start to take advantage of light guns. Otherwise they're just a shot in the dark.

John Kennedy



Space Harrier in the shrubbery



How to be an urban terrorist

The struggle for power

COMMODORE claims that the standard A500 PSU can comfortably supply enough power to handle one external floppy drive. This is probably as many as most users will want.

However once the more expansion minded add yet more drives and perhaps a meg or two more ram, the strain on the PSU may start to show.

Most modern 3.5in drives are pretty frugal with electricity, but older versions and unpredictable 5.25in systems might be a different story. Plus, with the emergence of A2000 lookalike expansion boxes, even more people will be looking out for something with slightly more oopmh to drive their peripherals.

So if you have expanded your setup and are experiencing strange Gurus, you might be facing an internal power struggle.

The solution, according to WTS, is its new, upgraded PSU. It is a direct replacement for the standard unit and is housed in an almost identical case. In fact, if the leads were a bit longer you would be hard pressed to tell them apart.

The most important difference is something which you can't see directly – the power output, which has been increased by a claimed 30 per cent. This has been achieved by upping the current on the plus 12V rail to 2A. As this is where the external drives get their power, it should enable the full quotient of three external drives to be used with ease.

It is important to remember that for seriously expanded systems where large amounts of ram are to be powered internally, you might need an even more powerful supply. In the meantime, for us mere mortals who don't have an 8 meg memory, this will do nicely.

The A500 PSU is available for £49.95 from WTS on 0582 491949.

John Kennedy



This is what the EuroLink package offers . .

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THE MODEM

The EuroLink modem is a robust and sophisticated device which turns data from your Amiga into signals which can be sent along a telephone line. It can handle speeds up to 2400 baud – about 40 words a second. Although it has many powerful features, it is simplicity itself to use when combined with its accompanying software. Built into the Hayes-compatible modem is MNP error correction – your guarantee of a corruption-free connection. Its wide range of other features include – auto dial and auto answer, auto redial, baud rate scanning, auto terminal baud rate sensing, 32-entry number store, internal loudspeaker, call progress monitor, bell tinkle supression, external plug mounted power supply unit and built-in 'watchdog' circuitry.

THE SOFTWARE

Accompanying the modem is one of the Amiga's most popular and easiest to use telecommunications packages, Access!, which simplifies the connection to MicroLink. Two mouse selections and the rest is automatic. After that you can move freely around MicroLink, capture text on disc and send pre-prepared documents – all with a minimum of keystrokes. It can also be used to dial other services in addition to MicroLink.

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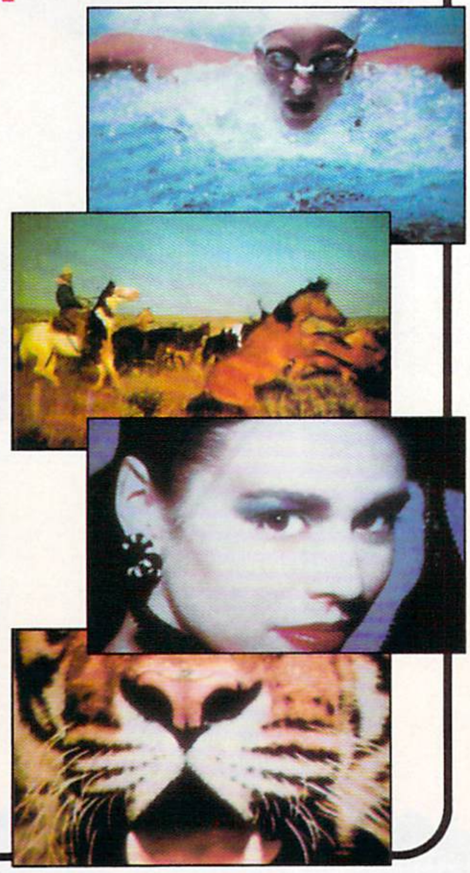
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AMIGADOS: A Dabhand Guide

Is a comprehensive guide to the Commodore amiga's disc Operating System (Versions 1.2 *and* 1.3). It provides a unique perspective on this powerful system in a way which will be welcomed by the beginner and the experienced user alike.

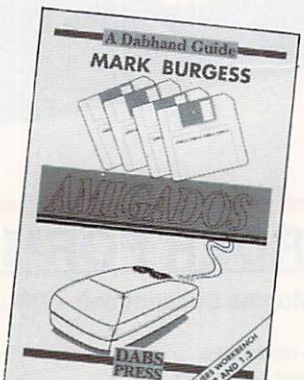
Rather than simply reiterating the Amiga manual, this book takes a genuinely different approach to understanding and using the Amiga and contains a wealth of practical hands-on advice and hints and tips.

The many features of this book include:

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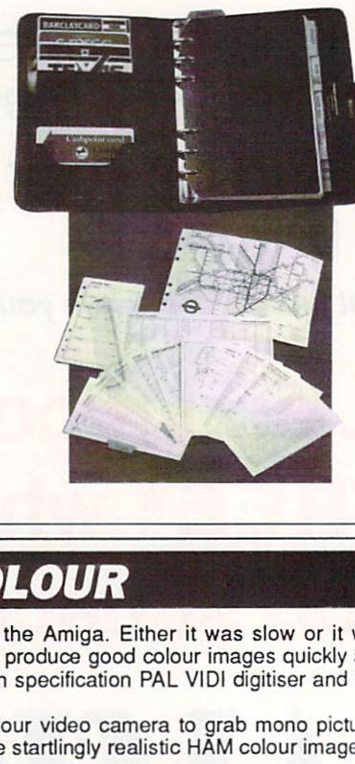
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Reader offers

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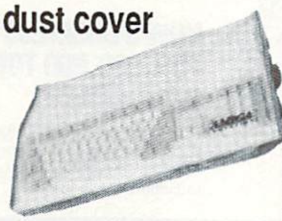
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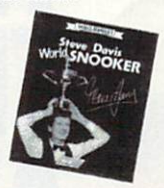
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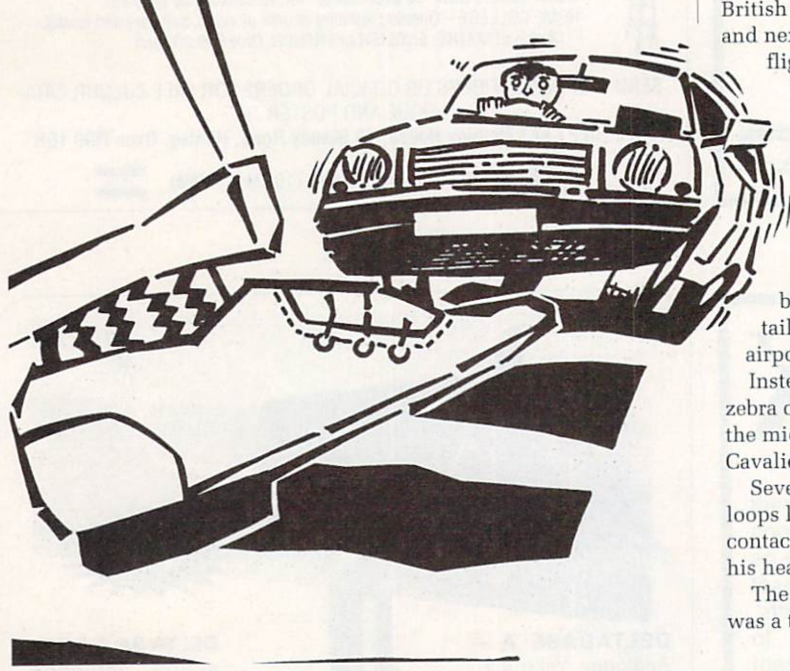
AMC7

Harder than you think

IT may be easy to believe that the life of a computer magazine journalist is a fun-filled and relaxing experience.

You might even think that here in the editorial offices of *Amiga Computing* we do nothing more than sit around and play games all day. Occasionally the telephone might ring and one of the bevy of PR persons might invite us out for lunch under the guise of showing us their latest game.

Then back to the office for a quick chat with the advertising department, a cup of delicious vending machine coffee and off home in the company Rover.



Alas, if only this were the case, for real life rarely lives up to expectations.

Take the recent Green incident, for example. There he was, all set to visit Dublin to see the premier performance of the Don Bluth film All Dogs Go To Heaven because of a computer game tie-in. Everything seemed wonderful. Little did Green know of the horrors in store.

All was going well as he made his way courtesy of British Rail to London Town and next day's early morning flight. Then the first disaster struck – his accommodation refused to accommodate him. This necessitated a hasty visit to a friend, who agreed to put him up for the night.

And so next morning, bright eyed and bushy tailed, he set off for the airport. He never made it. Instead, halfway across a zebra crossing he was struck in the midriff by a Vauxhall Cavalier

Several dramatic loop-the-loops later he re-established contact with the ground, using his head to cushion his fall.

The first we knew of all this was a telephone call to the office which went along these lines:

"Erm... I'm not in Dublin, I've been run over. Where am I? What am I supposed to be doing? Right... I'll call again some time..."

After about six hours without contact, Green was offically classed missing, presumed out to lunch. Even the software house which had invited him on the journey had not seen him. Was Green wandering around Euston Station in a dazed state? Who would write Amiga Arcade this month? The office party was well into the planning stages.

Eventually our beloved Reviews Editor did reappear, complete with large facial bruise and forehead mounted sticking plaster. Having missed the flight by being in the casualty ward of a local hospital, he clambered into the InterCity and came home again.

Comments such as "I see you've suffered some sort of head crash" were not appreciated.

It's a hard life.

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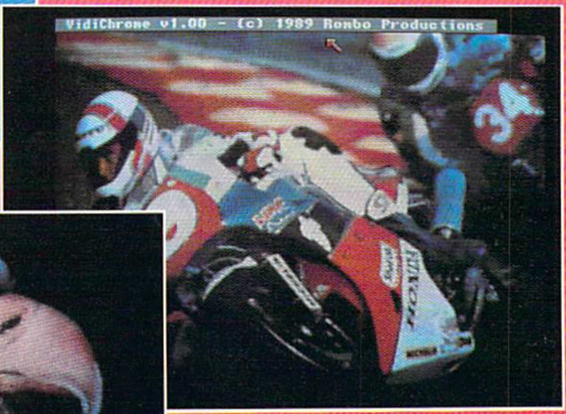
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